GENERAL SURGERY NEET PG

High-Yield Frequency Analysis & Topic Breakdown (2018–2025)

the_preload

Exam Coverage: 8 Years (2018 – 2025) **Subject: General Surgery & Allied Specialties**

Strategic Prep Guide: Categorized based on exact paper appearances over the past 8 years. Focus active recall, QBank practice, and high-yield revisions starting from Top Tier (4–7 repeats) down to rotational topics.

1. HIGH-FREQUENCY TOPICS (REPEATED 4–7 TIMES)

🔥 CRITICAL TOPICS — ALWAYS TESTED

Topic Title	Core Sub-topics & Focus	Years Tested
Breast Carcinoma Surgical, Chemo, Hormonal & IHC	Surgical management, MRM, Sentinel Node, Risk factors, TNM staging, IHC markers	2019, 20, 21, 22, 23, 24, 25
Peripheral Arterial Disease (PAD) Vascular Surgery	Clinical presentation, ABI, Claudication, Surgical & Endovascular management	2018, 2020, 2021, 2022
Varicose Veins Venous Disorders	CEAP classification, Clinical features, Trendelenburg test, EVLA, RFA & Stripping	2019, 2021, 2023, 2025
Thyroid Swelling & Carcinoma Endocrine Surgery	FNAC evaluation, Papillary/Follicular/Medullary staging, Total Thyroidectomy & Complications	2019, 2022, 2023, 2024
Trauma Management & DCS Emergency & Critical Care	ATLS protocols, Damage Control Surgery (DCS), Abdominal & Urogenital trauma triage	2020, 2021, 2022

2. MODERATE-FREQUENCY TOPICS (REPEATED 3 TIMES)

⚡ HIGH PRIORITY CORE CONCEPTS

Topic Title	Key High-Yield Concepts	Years Tested
Suture Materials & Techniques	Absorbable vs Non-absorbable, Natural vs Synthetic, Needle types, Suture knotting	2018, 2019, 2025
Cholelithiasis & Choledocholithiasis	Gallstone types, Charcot triad, ERCP vs MRCP, Laparoscopic Cholecystectomy	2019, 2020, 2021
Parathyroidectomy & Hyperparathyroidism	Primary vs Secondary/Tertiary, Sestamibi scan, Hungry Bone Syndrome	2019, 2020, 2025
Inguinal Hernia & Repair Surgery	Anatomy of inguinal canal, Nyhus classification, Lichtenstein & TEP/TAPP repair	2021, 2023, 2024
Fournier's Gangrene	Polymicrobial necrotizing fasciitis, Risk factors, Urgent surgical debridement	2021, 2022, 2023
Trauma - Urogenital	Renal trauma grading, Retrograde Urethrogram (RUG), Bladder rupture (Intra vs Extra)	2020, 2021, 2022
Burns - Classification & Resuscitation	Wallace Rule of Nines, Parkland Formula, Depth classification, Escharotomy	2022, 2024, 2025
Anorectal Abscess & Anal Fistula	Perianal spaces, Goodsall's Rule, Parks Classification, Fistulotomy vs Seton	2022, 2024, 2025

Topic Title	Key High-Yield Concepts	Years Tested
Achalasia Cardia	High-resolution manometry (Bird's beak appearance), Heller Myotomy & POEM	2018, 2020, 2025

3. REGULAR REPEATS (REPEATED 2 TIMES)

📌 ROTATIONAL RECURRING TOPICS

Topic Title	Sub-specialty Category	Years Tested
Aneurysms / Berry Aneurysm & SAH	Neurosurgery / Vascular	2018, 20, 22, 23
Nephrolithiasis / Renal Calculi	Urology	2018, 2024
Glasgow Coma Scale (GCS)	Trauma / Neurosurgery	2018, 2023
Pancreatic Carcinoma & Chronic Pancreatitis	HPB Surgery	2018, 2023, 2025
Keloid & Hypertrophic Scar	Plastic Surgery	2018, 2023
Bladder Carcinoma	Uro-Oncology	2019, 2021
Zenker's Diverticulum & Retrosternal Goiter	Head & Neck / Endocrine	2019, 2020
Salivary Tumors (Pleomorphic / Warthin's)	Head & Neck	2019, 2023
Lymphedema & Lymphangiosarcoma	Vascular Surgery	2020, 2021
Liver Transplantation	Transplant Surgery	2019, 2020
Esophagitis & Esophageal Perforation	Upper GI Surgery	2019, 2020, 2023
Acute Pancreatitis	HPB Surgery	2019, 2021
Multiple Endocrine Neoplasia (MEN)	Endocrine Surgery	2020, 2024
Prostate Carcinoma	Uro-Oncology	2021, 2022
Pneumoperitoneum & Peritonitis	Emergency Surgery	2021, 2022, 2025
Bed Sore / Pressure Ulcer	General Surgery	2022, 2024
Imaging Modalities & Barium Studies	Surgical Radiology	2020, 2022, 2024
Urethral Stricture & Penile Carcinoma	Urology / Uro-Oncology	2020, 2023, 2024
Hydatid Cyst (Echinococcus granulosus)	Hepatic Infection	2023, 2024
Aortic Dissection & Subdural Hematoma	Vascular / Neurosurgery	2023, 2024
Ulcers (Arterial, Venous, Neuropathic)	Vascular / Diabetic Foot	2023, 2024
Pheochromocytoma	Endocrine Surgery	2024, 2025
Colorectal Carcinoma	Colorectal Oncology	2019, 2023

4. YEARLY UNIQUE / SINGLE APPEARANCE TOPICS

💡 ROTATIONAL & SPECIFIC EXAM QUESTIONS

NEET PG 2018 Unique Topics

Hydronephrosis | Laxatives | Hashimoto's Thyroiditis | Testicular Carcinoma | Hemangioma | E. coli Infections | Upper GI Bleeding | Lower GI Bleeding | Duct Ectasia & Papilloma | Retractors | IHPS / CHPS | Compartment Syndromes | IBD Management | LCIS & DCIS | Barrett's Esophagus | qSOFA & Shock Index

NEET PG 2019 Unique Topics

Branchial Cyst | SERMs | Surgical Blades | Blast Injuries | Sebaceous Cyst | Mastitis & Breast Abscess | Frey's & Bogard Syndrome | DVT Pathophysiology | CMV Infections | Trauma Scoring Systems

NEET PG 2020 Unique Topics

ERCP & MRCP | Surgical Flaps | Zollinger-Ellison Syndrome | Diverticulosis & Diverticulitis | PSC & PBC | Insulinoma | Surgical Wounds & SSI | Adrenal Insufficiency | Thoracotomy Indications | Lung Carcinoma | RCC Management

NEET PG 2021 Unique Topics

Foreign Body GIT | Rectal Prolapse | Tension Pneumothorax | Intestinal Obstruction | Renal Tuberculosis | Gastric Carcinoma Management

NEET PG 2022 Unique Topics

Vesicoureteric Reflux (VUR) | Coagulopathy Workup | Basal Cell Carcinoma / Rodent Ulcer | Sialadenosis & Sialolithiasis | UPJ / PUJ Obstruction | ADPKD | Leukoplakia | Arteriovenous Malformations | Triage Protocols

NEET PG 2023 Unique Topics

IV / Intraosseous Cannulation | Hepatocellular Carcinoma (HCC) | Amoebiasis | Liver Abscess | Peptic Ulcer Disease | Raynaud's Phenomenon | Colonic Polyps | Thyroglossal Cyst | Cervical Carcinoma Treatment | Sepsis & Septic Shock

NEET PG 2024 Unique Topics

Skin Graft | Oral Cavity Carcinoma | Flail Chest | Posterior Urethral Valve | Esophageal Varices | Cleft Lip & Palate | Meckel's Diverticulum | Fibroadenoma & Phyllodes | TPN / Enteral Nutrition | Omphalocele & Gastroschisis | Pseudomembranous Colitis | Ranula | Testicular Torsion | Wound Healing | GERD

NEET PG 2025 Unique Topics

Epiploic Foramen | Inferior Vena Cava (IVC) | Hypocalcemia | Hypospadias | Bile Duct Injury | Liver Benign Tumors (FNH/Adenoma) | HPV Pathophysiology | Squamous Cell Carcinoma (SCC) | Diffuse Axonal Injury (DAI)

PHARMACOLOGY MASTER DIRECTORY

NEET PG 8-Year Previous Years Questions (PYQ) Frequency Analysis (2018–2025)

Comprehensive Chapter-Wise & Priority Breakdown | 100% Exam-Mapped

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6 Topics	8 Topics	12 Topics
🔴 TIER 1: HIGH YIELD (6–8 YRS)	🟡 TIER 2: MEDIUM YIELD (3–5 YRS)	🟢 TIER 3: LOW YIELD (1–2 YRS)

🚀 **HOW TO USE THIS DIRECTORY (@the_preload Strategy):**
NEET PG Pharmacology questions follow a predictable 80/20 distribution. **Tier 1 High-Yield topics accounts for over 65% of all Pharmacology MCQs** tested across 2018–2025. Master Tier 1 first, focus on high-yield drug mechanisms and specific antidotes/ toxicities, then proceed to Tier 2.

🔴 TIER 1: HIGH-YIELD / HIGH FREQUENCY TOPICS (Repeated in 6 to 8 Years)

1. Anti-Tuberculosis Regimens & Drug Toxicities (NTEP / RIPE Protocol)

8 / 8 YEARS (100% REPEAT)

Exams Tested: 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025

CORE EXAM FOCUS POINTS:

- **Rifampin:** Orange/red body fluid discoloration, potent CYP450 enzyme inducer.
- **Isoniazid (INH):** Peripheral neuropathy (prevent with Pyridoxine / Vitamin B6), drug-induced lupus (Anti-histone +), hepatotoxicity.
- **Pyrazinamide:** Hyperuricemia (gout exacerbation), most hepatotoxic first-line agent.
- **Ethambutol:** Optic neuritis (red-green color blindness, visual acuity loss) — dose adjustment in renal failure.
- **Second-line / MDR-TB:** Bedaquiline (ATP synthase inhibitor), Delamanid, Linezolid toxicities.

2. Antiepileptics: Mechanisms, Kinetics & Teratogenicity Profiles

8 / 8 YEARS (100% REPEAT)

Exams Tested: 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025

CORE EXAM FOCUS POINTS:

- **Valproate:** Neural tube defects (spina bifida), weight gain, pancreatitis, hepatotoxicity, broad-spectrum MoA.
- **Phenytoin:** Zero-order elimination kinetics at therapeutic levels, gingival hyperplasia, hirsutism, nystagmus, osteomalacia, fetal hydantoin syndrome.
- **Carbamazepine:** Trigeminal neuralgia drug of choice, Stevens-Johnson syndrome (HLA-B*1502 screening), SIADH / hyponatremia.
- **Lamotrigine:** SJS/TEN risk (slow dose titration needed); **Levetiracetam:** SV2A ligand, safest in pregnancy & liver disease.

3. Antidiabetic Drugs (SGLT2i, GLP-1 RA, DPP-4i, Metformin & Insulin)

7 / 8 YEARS (87.5% REPEAT)

Exams Tested: 2018 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025

CORE EXAM FOCUS POINTS:

- **SGLT-2 Inhibitors (Empagliflozin, Dapagliflozin):** Cardioprotective/renal protective, cause Euglycemic DKA, mycotic genital infections, UTIs.
- **Metformin:** First-line agent, AMP-activated protein kinase activator, causes Lactic Acidosis (hold in CKD/contrast studies), Vitamin B12 deficiency.
- **GLP-1 Receptor Agonists (Semaglutide, Liraglutide):** Weight loss, reduction in MACE events, pancreatitis & medullary thyroid cancer warnings.
- **DPP-4 Inhibitors (Sitagliptin):** Weight neutral; Linagliptin safe in renal failure (biliary excretion).

4. Anticoagulants, Antiplatelets & Specific Reversal Agents

7 / 8 YEARS (87.5% REPEAT)

Exams Tested: 2018 2019 2020 2021 2022 2024 2025

CORE EXAM FOCUS POINTS:

• **Unfractionated Heparin vs LMWH:** Monitoring via aPTT vs Anti-Xa activity; reversal with Protamine Sulfate.
• **Heparin-Induced Thrombocytopenia (HIT Type II):** Antibodies against PF4-heparin complex; immediate switch to Direct Thrombin Inhibitor (Argatroban / Bivalirudin).
• **Warfarin:** Inhibits Vitamin K epoxide reductase (Factors II, VII, IX, X, Protein C/S); monitored via PT/INR; skin necrosis risk; reversal with Vitamin K1 & Prothrombin Complex Concentrate (PCC).
• **DOAC Reversals:** Idarucizumab (for Dabigatran); Andexanet Alfa (for Factor Xa inhibitors: Rivaroxaban/Apixaban).

5. Pharmacokinetics: Elimination Kinetics, Clearance & Calculations

6 / 8 YEARS (75% REPEAT)

Exams Tested: 2018 2019 2020 2021 2023 2025

CORE EXAM FOCUS POINTS:

• **Zero-Order vs First-Order Kinetics:** Constant amount vs constant fraction eliminated per unit time. Zero-order drugs (Capacity-limited): Phenytoin, Ethanol, Aspirin (high dose), Theophylline.
• **Core Formulas:**
  - Volume of Distribution (V_d) = Dose / C_0
  - Half-life ($t_{1/2}$) = $(0.693 imes V_d) / Clearance$
  - Loading Dose = $(Target\, C_{ss} imes V_d) / Bioavailability (F)$
  - Maintenance Dose = $(Target\, C_{ss} imes CL) / F$
• Steady state reached after 4 to 5 half-lives ($4.32 imes t_{1/2}$).

6. Organophosphate Poisoning & Autonomic Nervous System Drugs

6 / 8 YEARS (75% REPEAT)

Exams Tested: 2018 2019 2021 2022 2023 2024

CORE EXAM FOCUS POINTS:

• **Organophosphate Poisoning:** Irreversible acetylcholinesterase inhibition; DUMBELS mnemonic (Diarrhea, Urination, Miosis, Bronchospasm, Emesis, Lacrimation, Salivation).
• **Treatment Protocol:** Atropine (blocks central/muscarinic effects; titrate until secretions dry) + Pralidoxime (PAM, regenerates AChE; must give before enzyme aging occurs).
• **Beta-Blocker Subtypes:** $ eta_1$-selective (Metoprolol, Atenolol, Esmolol); Non-selective with $ lpha_1$ blockade (Carvedilol, Labetalol in hypertensive emergencies/pregnancy).

🟡 TIER 2: MEDIUM-YIELD TOPICS (Repeated in 3 to 5 Years)

7. Diuretics: Sites of Action & Electrolyte Alterations

5 / 8 YEARS (62.5% REPEAT)

Exams Tested: 2018 2019 2020 2021 2024

CORE EXAM FOCUS POINTS:

• **Loop Diuretics (Furosemide, Torsemide):** Inhibit $Na^+/K^+/2Cl^-$ cotransporter in Thick Ascending Limb. Cause Hypokalemic Metabolic Alkalosis, Hypocalcemia, Ototoxicity.
• **Thiazides (Hydrochlorothiazide, Chlorthalidone):** Inhibit Na^+/Cl^- cotransporter in Early DCT. Cause Hypercalcemia, Hyperuricemia, Hyperglycemia, Hyponatremia.
• **Potassium-Sparing (Spironolactone, Eplerenone, Amiloride):** Aldosterone antagonists; reduce mortality in Heart Failure; cause Hyperkalemia & Gynecomastia (Spironolactone).

8. Lithium Therapeutics, Toxicity & Drug Interaction Profile

5 / 8 YEARS (62.5% REPEAT)

Exams Tested: 2018 2020 2021 2023 2025

CORE EXAM FOCUS POINTS:

- **Therapeutic Index:** Narrow Window ($0.6 - 1.2 ext{ mEq/L}$); toxicity at $>1.5 ext{ mEq/L}$ (tremors, ataxia, seizures).
- **Adverse Effects:** Nephrogenic Diabetes Insipidus (treat with Amiloride), Hypothyroidism, Ebstein anomaly in pregnancy.
- **Drug Interactions (Increase Lithium Levels):** Thiazide diuretics (increased proximal reabsorption), NSAIDs, ACE inhibitors/ARBs.

9. Glaucoma Medical Management Pharmacology

4 / 8 YEARS (50% REPEAT)

Exams Tested: 2018 2019 2020 2023

CORE EXAM FOCUS POINTS:

- **Prostaglandin Analogs (Latanoprost, Bimatoprost):** 1st line in Open-Angle Glaucoma; increase uveoscleral outflow; cause iris hyperpigmentation & brown eyelash growth.
- **Beta-Blockers (Timolol):** Decrease aqueous humor production by ciliary epithelium.
- **Pilocarpine:** Direct muscarinic agonist; causes miosis & contraction of ciliary muscle (drug of choice in acute angle-closure emergency).

10. Antineoplastic Toxicities & Specific Cytoprotective Agents

4 / 8 YEARS (50% REPEAT)

Exams Tested: 2019 2021 2022 2024

CORE EXAM FOCUS POINTS:

- **Methotrexate + Leucovorin (Folinic Acid):** Rescue for bone marrow suppression.
- **Cyclophosphamide + Mesna:** Binds acrolein to prevent hemorrhagic cystitis.
- **Cisplatin + Amifostine / Saline Hydration:** Prevents severe nephrotoxicity & ototoxicity.
- **Doxorubicin + Dexrazoxane:** Iron-chelating agent to prevent dilated cardiomyopathy.

11. Opioids Pharmacology & Overdose Management

4 / 8 YEARS (50% REPEAT)

Exams Tested: 2018 2020 2021 2024

CORE EXAM FOCUS POINTS:

- **Overdose Triad:** Respiratory depression, pinpoint pupils (miosis), CNS coma.
- **Naloxone:** Pure competitive μ-opioid receptor antagonist; short half-life requires repeated IV doses.
- **Tramadol:** Weak μ-agonist + reuptake inhibitor of serotonin/NE; increases seizure risk & Serotonin Syndrome.

12. Heart Failure Pharmacology (ARNI & Digoxin Toxicity)

4 / 8 YEARS (50% REPEAT)

Exams Tested: 2018 2021 2022 2025

CORE EXAM FOCUS POINTS:

- **Sacubitril / Valsartan (ARNI):** Neprilysin inhibitor + ARB; reduces mortality in HFrEF.
- **Digoxin Toxicity:** Inhibits Na^+/K^+ ATPase; visual disturbance (xanthopsia/yellow halos), arrhythmias; hypokalemia worsens digoxin binding; antidote is Digoxin Immune Fab (Digibind).

13. Bisphosphonates & Bone Mineral Metabolism

3 / 8 YEARS (37.5% REPEAT)

Exams Tested: 2020 2021 2023

CORE EXAM FOCUS POINTS:

- **Alendronate / Zoledronic Acid:** Pyrophosphate analogs; inhibit osteoclast FPPS enzyme.
- **Administration Protocol:** Take with full glass of water, remain upright for 30 minutes to avoid severe pill esophagitis.
- **Adverse Effects:** Osteonecrosis of the jaw (ONJ), atypical subtrochanteric femoral fractures.

14. Antipsychotics & Extrapyramidal Side Effects (EPS)

3 / 8 YEARS (37.5% REPEAT)

Exams Tested: 2019 2022 2024

CORE EXAM FOCUS POINTS:

• **Typical (Haloperidol) vs Atypical (Clozapine, Olanzapine):** D2 blockade vs 5HT2A/D2 blockade.
• **EPS Timeline:** Acute Dystonia (hours-days, treat with Benztropine) $ ightarrow$ Akathisia (days-weeks, treat with Propranolol) $ ightarrow$ Parkinsonism (weeks-months) $ ightarrow$ Tardive Dyskinesia (months-years, Valbenazine).
• **Clozapine:** Drug of choice for treatment-resistant schizophrenia; causes agranulocytosis (monitor ANC) & myocarditis.

🟢 TIER 3: LOW-YIELD / EMERGING TOPICS (Repeated in 1 to 2 Years)

TOPIC NAME	SYSTEM	YEARS TESTED	HIGH-YIELD EXAM TAKEAWAY
Gout Pharmacology	Musculoskeletal	2018, 2021 (2x)	**Acute:** NSAIDs / Colchicine (inhibits microtubule polymerization). **Chronic:** Allopurinol / Febuxostat (Xanthine Oxidase Inhibitors). Do not start allopurinol during acute attack.
Drug-Induced Lupus (DILE)	Autacoids / CVS	2020, 2023 (2x)	Associated with **Hydralazine, Procainamide, Isoniazid**. Characterized by Anti-histone antibodies positive, Anti-dsDNA negative. Sparing of kidneys and CNS.
Inhalational Anesthetics	CNS / Anesthesia	2020, 2022 (2x)	**MAC value:** Inversely proportional to potency. **Blood/Gas partition coefficient:** Inversely proportional to speed of induction. Succinylcholine + Halothane trigger Malignant Hyperthermia (treat with Dantrolene).
Anti-Leprosy (Dapsone)	Antimicrobials	2019, 2021 (2x)	Dapsone causes methemoglobinemia and hemolysis in G6PD deficiency. Part of WHO MDT along with Rifampicin and Clofazimine.
Antifungal Classes	Antimicrobials	2018, 2020 (2x)	**Amphotericin B:** Binds ergosterol; causes nephrotoxicity and hypokalemia. **Echinocandins (Caspofungin):** Inhibits $ eta$-(1,3)-D-glucan cell wall synthesis.
Statins & Fibrates	Cardiovascular	2020 (1x)	Statins inhibit HMG-CoA reductase; take at bedtime. Combined with Fibrates (Gemfibrozil), risk of severe rhabdomyolysis increases exponentially.
Parkinsonism Drugs	CNS	2021 (1x)	Levodopa + Carbidopa (peripheral DOPA decarboxylase inhibitor). Entacapone inhibits peripheral COMT. Selegiline inhibits MAO-B.
Fluoroquinolones Warnings	Antimicrobials	2019, 2024 (2x)	Inhibit DNA Gyrase / Topoisomerase IV. Black box warning for tendonitis / Achilles tendon rupture, aortic aneurysm, and QT prolongation.
Biologicals & Monoclonals	Immunology	2018, 2025 (2x)	Infliximab/Adalimumab (TNF-$ lpha$ inhibitors; check for latent TB prior to starting), Rituximab (Anti-CD20), Trastuzumab (HER2/neu; cardiotoxicity).
Rasburicase & Pegloticase	Renal / Oncology	2020, 2025 (2x)	Recombinant Urate Oxidase enzymes; convert uric acid to soluble allantoin in Tumor Lysis Syndrome. Contraindicated in G6PD deficiency.
Macrolides Pharmacology	Antimicrobials	2019 (1x)	Inhibit 50S ribosomal subunit. Erythromycin acts on motilin receptors (prokinetic). Cause QT prolongation and CYP3A4 inhibition.
Prokinetic Agents	GIT	2021, 2025 (2x)	Metoclopramide: D2 receptor antagonist; causes Extrapyramidal side effects and hyperprolactinemia/galactorrhea. Domperidone does not cross BBB.

📊 MASTER HIGH-FREQUENCY DISTRIBUTION TABLE (2018–2025)

CORE PHARMACOLOGY TOPIC	FREQUENCY	YIELD TIER	EXAM YEAR FOOTPRINT
Anti-TB Therapy (RIPE Protocol)	8 / 8	TIER 1	2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025
Antiepileptics & Teratogenicity	8 / 8	TIER 1	2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025
Antidiabetics (SGLT2i/GLP1/Metformin)	7 / 8	TIER 1	2018, 2020, 2021, 2022, 2023, 2024, 2025
Anticoagulants & Reversal Agents	7 / 8	TIER 1	2018, 2019, 2020, 2021, 2022, 2024, 2025
Pharmacokinetics & Calculations	6 / 8	TIER 1	2018, 2019, 2020, 2021, 2023, 2025
Organophosphate & ANS Drugs	6 / 8	TIER 1	2018, 2019, 2021, 2022, 2023, 2024
Diuretics & Electrolytes	5 / 8	TIER 2	2018, 2019, 2020, 2021, 2024
Lithium Toxicity & Interactions	5 / 8	TIER 2	2018, 2020, 2021, 2023, 2025
Glaucoma Medical Therapy	4 / 8	TIER 2	2018, 2019, 2020, 2023
Antineoplastic Cytoprotectants	4 / 8	TIER 2	2019, 2021, 2022, 2024
Opioids & Overdose Protocol	4 / 8	TIER 2	2018, 2020, 2021, 2024
Heart Failure GDMT & Digoxin	4 / 8	TIER 2	2018, 2021, 2022, 2025

Created exclusively for **@the_preload** | NEET PG High-Yield Revision Series

Designed for rapid revision and high-retention recall. Save and review before the exam!

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The Ultimate PYQ Frequency Register

A Comprehensive Internal Medicine Master Directory (2018–2025/26) Segmented Rigorously by High, Moderate, and Low Exam Repetition Frequencies.

> **Note for NEET PG Aspirants:** This high-yield directory maps recurring clinical patterns across key internal medicine chapters. Maximize your study efficiency by mastering **High-Frequency** topics first (appearing in 6 to 8 years) before moving to **Moderate** and **Low-Frequency** areas.

🫀 CHAPTER 1: CARDIOLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Acute Coronary Syndrome (ACS) & MI ECG Localization

Frequency: Repeated 8 out of 8 years (2018–2025)

CORE FOCUS: STEMI vs. NSTEMI, door-to-balloon time ($dt < 90\ min$), inferior wall (RCA) vs. anterior wall (LAD) ECG changes, and thrombolytic criteria.

Heart Failure (HFrEF/HFpEF) & GDMT Guidelines

Frequency: Repeated 7 years (2018, 2019, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: Four pillars of Guideline-Directed Medical Therapy (ACEi/ARNI, Beta-blockers, Spironolactone, SGLT2 inhibitors like empagliflozin).

Atrial Fibrillation & Wolff-Parkinson-White (WPW) Syndrome

Frequency: Repeated 6 years (2019, 2020, 2021, 2023, 2024, 2025)

CORE FOCUS: Rate vs. rhythm control, CHA_2DS_2-VASc scoring for anticoagulation, and contraindications in pre-excited AFib (avoiding AV nodal blockers).

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Infective Endocarditis (Modified Duke Criteria)

Frequency: Repeated 4 years (2018, 2020, 2022, 2024)

CORE FOCUS: Major vs. minor criteria, HACEK culture-negative protocols, and empiric antibiotic choices.

Aortic Dissection & Coarctation of Aorta

Frequency: Repeated 3 years (2021, 2024, 2025)

CORE FOCUS: Stanford classification (Type A vs. B), tearing chest pain radiating to the back, and radio-femoral delay.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Pericardial Tamponade vs. Constrictive Pericarditis

Frequency: Repeated 2 years (2019, 2022)

CORE FOCUS: Beck's triad, pulsus paradoxus, and Kussmaul's sign.

Hypertensive Emergencies

Frequency: Repeated 2 years (2020, 2023)

CORE FOCUS: Choice of IV drugs (Labetalol, Nitroprusside, Nicardipine) and target MAP reduction rates.

Baroreceptor Reflex Mechanics

Frequency: Repeated 1 year (2021)

CORE FOCUS: Carotid sinus vs. aortic arch receptor physiology during shock.

🩸 CHAPTER 2: ENDOCRINOLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Diabetic Ketoacidosis (DKA) vs. Hyperosmolar Hyperglycemic State (HHS)

Frequency: Repeated 8 out of 8 years (2018–2025)

CORE FOCUS: Fluid management algorithms, absolute potassium cutoffs for insulin administration ($K^+ < 3.3$ mEq/L), and criteria for resolving the anion gap.

Thyroid Emergencies (Thyroid Storm vs. Myxedema Coma)

Frequency: Repeated 6 years (2018, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: Clinical vignettes with Burch-Wartofsky score, and sequential blockade management (Anti-thyroid drugs → Iodine → Beta-blockers → Steroids).

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Adrenal Crisis & Addison's Disease

Frequency: Repeated 4 years (2019, 2022, 2024, 2025)

CORE FOCUS: Refractory hypotension, electrolyte presentation (hyponatremia + hyperkalemia), and high-dose IV hydrocortisone protocols.

Pheochromocytoma Diagnosis & Management

Frequency: Repeated 3 years (2018, 2021, 2025)

CORE FOCUS: 24-hour urinary metanephrines, and the rule of alpha-blockade (Phenoxybenzamine) before beta-blockade.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

MEN Syndromes (Multiple Endocrine Neoplasia)

Frequency: Repeated 2 years (2020, 2024)

CORE FOCUS: Genetic screens and distinguishing MEN 1, 2A, and 2B configurations.

SIADH vs. Diabetes Insipidus

Frequency: Repeated 2 years (2019, 2022)

CORE FOCUS: Serum vs. urine osmolality interpretations, fluid restriction, and Vaptan therapy.

Prolactinoma Medical Management Failures

Frequency: Repeated 1 year (2023)

CORE FOCUS: Dopamine agonist resistance indications (Cabergoline vs. Bromocriptine).

🫁 CHAPTER 3: PULMONOLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Tuberculosis (NTEP Treatment Guidelines & RIPE Pharmacology)

Frequency: Repeated 8 out of 8 years (2018–2025)

CORE FOCUS: Fixed-dose combinations, drug toxicities (Ethambutol optic neuritis, Isoniazid peripheral neuropathy), drug-resistant patterns, and HIV-TB co-infection timing.

Spirometry Loops & Obstructive vs. Restrictive Pulmonary Profiles

Frequency: Repeated 7 years (2018, 2019, 2021, 2022, 2023, 2024, 2025)

CORE FOCUS: Calculating FEV_1/FVC ratio changes, flow-volume curve changes, and DLCO interpretations.

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Asthma GINA Step Ladder vs. Acute COPD Exacerbation Management

Frequency: Repeated 5 years (2020, 2022, 2023, 2024, 2025)

CORE FOCUS: ICS-Formoterol rescue therapy shifts, indications for non-invasive ventilation (NIV), and updated GOLD criteria.

ARDS Ventilation Management

Frequency: Repeated 3 years (2020, 2024, 2025)

CORE FOCUS: Lung-protective ventilation strategy: low tidal volume (6 mL/kg) + high PEEP titration.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Pleural Effusion (Light's Criteria interpretation)

Frequency: Repeated 2 years (2021, 2024)

CORE FOCUS: Exudative vs. transudative fluid protein and LDH ratios.

Occupational Pneumoconioses

Frequency: Repeated 2 years (2019, 2023)

CORE FOCUS: Eggshell calcification in silicosis vs. ivory white pleural plaques in asbestosis.

Idiopathic Pulmonary Fibrosis (IPF)

Frequency: Repeated 1 year (2022)

CORE FOCUS: HRCT chest showing subpleural honeycombing patterns.

🍣 CHAPTER 4: GASTROENTEROLOGY & HEPATOLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Hepatitis B Serological Matrix Interpretation

Frequency: Repeated 7 years (2018, 2019, 2021, 2022, 2023, 2024, 2025)

CORE FOCUS: Differentiating the window period (isolated Anti-HBc IgM) from vaccine immunity vs. chronic high-replicating active carrier states.

Cirrhosis Complications & Acute Variceal Hemorrhage Protocols

Frequency: Repeated 6 years (2019, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: Vasoactive drugs (Terlipressin, Octreotide), emergency endoscopic band ligation, Child-Pugh vs. MELD scoring parameters, and spontaneous bacterial peritonitis (SBP) diagnostic paracentesis values.

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Inflammatory Bowel Disease (Crohn’s vs. Ulcerative Colitis)

Frequency: Repeated 5 years (2018, 2020, 2022, 2024, 2025)

CORE FOCUS: Continuous mucosal involvement vs. skip lesions, ASCA vs. p-ANCA antibody associations, and string sign of Cantor vs. lead-pipe colon imaging.

Acute Pancreatitis Prognostication

Frequency: Repeated 3 years (2019, 2022, 2025)

CORE FOCUS: Utilizing Ranson criteria, BISAP scoring, fluid resuscitation protocols, and identifying pseudocyst timeline complications.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Painless Jaundice & Periampullary Malignancy

Frequency: Repeated 2 years (2020, 2024)

CORE FOCUS: Verification of Courvoisier’s law (palpable gallbladder) and double-duct signs on MRCP.

Wilson's Disease

Frequency: Repeated 2 years (2021, 2023)

CORE FOCUS: Low serum ceruloplasmin, ATP7B gene mutations, and Kayser-Fleischer rings.

Celiac Disease Malabsorption Discrepancies

Frequency: Repeated 1 year (2022)

CORE FOCUS: Tissue transglutaminase (tTG) IgA tracking flaws in patients with selective IgA deficiency.

🧠 CHAPTER 5: NEUROLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Acute Ischemic Stroke Management & Syndromes

Frequency: Repeated 7 years (2018, 2019, 2021, 2022, 2023, 2024, 2025)

CORE FOCUS: Intravenous thrombolysis window rules (rtPA ≤ 4.5 hours), absolute exclusion criteria (history of intracranial hemorrhage, active bleeding), and arterial territory stroke syndromes (MCA, ACA, PCA localizations).

Status Epilepticus Step-wise Protocol

Frequency: Repeated 6 years (2019, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: Exact timing and drug sequence: Benzodiazepines (IV Lorazepam) → Anti-epileptics (IV Phenytoin / Levetiracetam) → General Anesthetic infusion (Propofol/Midazolam).

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Parkinson's Disease & Movement Disorders

Frequency: Repeated 4 years (2018, 2021, 2023, 2025)

CORE FOCUS: Dopaminergic pathways, drug induced parkinsonism, and selection of Levodopa-Carbidopa vs. Dopamine agonists.

Meningitis CSF Analysis

Frequency: Repeated 3 years (2020, 2022, 2025)

CORE FOCUS: Distinguishing Bacterial vs. Viral vs. Tubercular/Fungal meningitis profiles via CSF protein, glucose, and cell differential counts.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Guillain-Barré Syndrome (GBS) vs. Myasthenia Gravis

Frequency: Repeated 2 years (2019, 2023)

CORE FOCUS: Albuminocytologic dissociation in GBS CSF, anti-AChR/anti-MuSK antibodies, and criteria for plasmapheresis vs. IVIG.

Multiple Sclerosis

Frequency: Repeated 1 year (2024)

CORE FOCUS: Oligoclonal bands in CSF and periventricular plaques on MRI.

🧠 CHAPTER 6: NEPHROLOGY

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Acid-Base Disorders & ABG Analysis

Frequency: Repeated 8 out of 8 years (2018–2025)

CORE FOCUS: Identifying mixed acid-base abnormalities, calculating the High Anion Gap Metabolic Acidosis (HAGMA using MUDPILES), and applying Winter's formula for respiratory compensation.

Acute Kidney Injury (AKI) Staging & Dialysis Indications

Frequency: Repeated 7 years (2018, 2019, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: KDIGO staging guidelines using serum creatinine increases and urine output, and the absolute emergent indications for hemodialysis (AEIOU mnemonic).

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Glomerular Diseases Presentation

Frequency: Repeated 5 years (2019, 2021, 2023, 2024, 2025)

CORE FOCUS: Minimal Change Disease vs. Membranous Nephropathy vs. Post-Streptococcal Glomerulonephritis (PSGN) differentiating pathology and electron microscopy signs.

Chronic Kidney Disease (CKD) Staging & Complications

Frequency: Repeated 4 years (2018, 2020, 2022, 2025)

CORE FOCUS: GFR-based staging cuts, mineral bone disease pathogenesis, and renal anemia management with erythropoietin-stimulating agents.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Hyperkalemia Emergency Management Protocol

Frequency: Repeated 2 years (2021, 2024)

CORE FOCUS: Sequential treatment steps: Membrane stabilization (Calcium Gluconate) → Intracellular shift (Insulin+Dextrose, Beta-agonists) → Total elimination (Furosemide, Patiromer, Dialysis).

Polycystic Kidney Disease (ADPKD)

Frequency: Repeated 1 year (2023)

CORE FOCUS: Extra-renal manifestations (berry aneurysms, hepatic cysts).

🦴 CHAPTER 7: RHEUMATOLOGY & INFECTIOUS DISEASES

RED / HIGH FREQUENCY (REPEATED 6 TO 8 YEARS)

Systemic Lupus Erythematosus (SLE) Diagnosis

Frequency: Repeated 6 years (2018, 2019, 2021, 2023, 2024, 2025)

CORE FOCUS: EULAR/ACR entry criteria, high screening sensitivity of ANA, specific diagnostic profiles of Anti-dsDNA and Anti-Smith autoantibodies, and drug-induced lupus diagnostic profiles (Anti-Histone antibody).

HIV/AIDS Opportunistic Infections & Management

Frequency: Repeated 6 years (2019, 2020, 2022, 2023, 2024, 2025)

CORE FOCUS: CD4 cutoff tracking for prophylaxis (PCP, Toxoplasma, MAC), management of Immune Reconstitution Inflammatory Syndrome (IRIS), and antiretroviral therapy (ART) drug adverse profiles.

YELLOW / MODERATE FREQUENCY (REPEATED 3 TO 5 YEARS)

Rheumatoid Arthritis Clinical Diagnostics

Frequency: Repeated 4 years (2018, 2020, 2022, 2025)

CORE FOCUS: Anti-CCP diagnostic specificity, hand deformities (Boutonniere, Swan-neck), and early utilization parameters for DMARDs (Methotrexate).

Malaria & Dengue Vector-borne Management

Frequency: Repeated 4 years (2019, 2021, 2024, 2025)

CORE FOCUS: Severe malaria criteria (artesunate drug of choice), and systemic fluid monitoring rules for severe dengue capillary leak syndrome.

GREEN / LOW FREQUENCY (REPEATED 1 TO 2 YEARS)

Seronegative Spondyloarthropathies

Frequency: Repeated 2 years (2020, 2023)

CORE FOCUS: HLA-B27 associations in Ankylosing Spondylitis and Reactive Arthritis clinical triads.

Systemic Sclerosis / Scleroderma

Frequency: Repeated 2 years (2018, 2022)

CORE FOCUS: Diffuse (Anti-Scl-70/topoisomerase) vs. Limited/CREST syndrome (Anti-Centromere antibody) variations.

Gout and Pseudogout Crystal Differentiating Diagnostics

Frequency: Repeated 1 year (2024)

CORE FOCUS: Needle-shaped, negatively birefringent monosodium urate crystals under polarized light vs. rhomboid-shaped, positively birefringent calcium pyrophosphate crystals.

NEET PG EXAM PREPARATION • SUBJECT MASTER SCHEMA

BIOCHEMISTRY: 8-YEAR TOPIC ANALYSIS (2018–2025)

Source: 100% Extraction & Cataloging (Images 14–21) **Compiled for:** @the_preload

📊 Comprehensive Deep Frequency Analysis

🔴 HIGH-FREQUENCY TIER (3+ Years Repeat Threshold)

TOPIC NAME	FREQUENCY	YEARS TESTED
Vitamin B3 / Niacin & Pellagra	5 Years	2018, 2020, 2021, 2023, 2024
Lysosomal Storage Disorders	4 Years	2021, 2023, 2024, 2025
Fed And Fasting State / Interrelationships	4 Years	2020, 2021, 2023, 2025
DNA Repair & Defects / Xeroderma Pigmentosum	4 Years	2018, 2021, 2024, 2025
Vitamin B1 / Thiamine	3 Years	2023, 2024, 2025
Vitamin B12 / Cobalamin & Megaloblastic Anemia	3 Years	2020, 2024, 2025
Electron Transport Chain (ETC)	3 Years	2021, 2022, 2024
Glycogen Storage Disorders	3 Years	2022, 2023, 2024
Hyperlipoproteinemias & Dyslipidemia	3 Years	2018, 2019, 2021, 2024, 2025
Alkaptonuria	3 Years	2020, 2021, 2023

🟡 MODERATE-FREQUENCY TIER (2 Years Repeat Threshold)

TOPIC NAME	FREQUENCY	YEARS TESTED
Fatty Acid Oxidation and Its Disorders	2 Years	2019, 2022
Fatty Acid Synthesis	2 Years	2018, 2019
Amino Acids - Structure & Classification	2 Years	2018, 2020
Amino Acids - Reactions, Tests & Derivatives	2 Years	2019, 2020
Enzymes Properties & Kinetics	2 Years	2018, 2020
Competitive & Non-Competitive Inhibition	2 Years	2020, 2024
DNA - Structure and Organization	2 Years	2020, 2022
Autosomal Recessive Disorders	2 Years	2019, 2022
Vitamin A & WHO Grading of Deficiency	2 Years	2021, 2022
Galactosemia	2 Years	2018, 2024
Menkes' Disease	2 Years	2019, 2024
Hypercholesterolemia	2 Years	2021, 2024
Vitamin C Deficiency / Scurvy	2 Years	2023, 2025
Phenylketonuria / PKU	2 Years	2024, 2025

🟢 LOW-FREQUENCY TIER (Single-Year Topics Summary)

YEAR	SINGLE-YEAR ENCOUNTERED TOPICS
2018	Rare Disorders of AA Metabolism, Neurotransmitters/Neuromodulators, DNA Replication, Nephrolithiasis, Carcinoid Syndrome, Pheochromocytoma, Vitamin K, Fat Soluble Vitamins, Tyrosine Metabolism, Epigenetics/Gene Expression, Cardiac Biomarkers.
2019	Albinism, Urea Cycle & Disorders, Adrenaline/Epinephrine, Hepatopulmonary/Hepatorenal Syndrome, Krebs Cycle (TCA), Hyperammonemia, Autosomal Dominant Disorders, Achondroplasia, Mitochondrial DNA, Wilson's Disease.
2020	Cytoskeleton/Intracellular Proteins, Post Transcriptional Modification, Lipoproteins, Obstructive Jaundice, Bile Pigments/Salts/Acids, Gluconeogenesis, Vitamin B9 (Folic Acid), Cystoid Macular Edema (CME), Nitric Oxide.
2021	Glycosaminoglycans (GAGs), Glycogenolysis, Lynch Syndrome (HNPCC), Glycolysis, Pyruvate Dehydrogenase Complex, Homocystinuria.
2022	HMP Shunt Pathway, Cystic Fibrosis, Genetic Code, Vitamin B2 (Riboflavin).
2023	Sphingolipids/Phospholipids, Coagulation Pathways/Factors, Wernicke-Korsakoff, Beriberi, Alcohol Intoxication, Acrodermatitis Enteropathica / Zinc Deficiency, Vitamin B7 (Biotin).
2024	Phrynoderma, Lesch Nyhan Syndrome, Vitamin B6 (Pyridoxine), Lead Poisoning, Lactose Intolerance.
2025	Collagen Fibres, RNA - Transcription & Translation, Ketogenesis.

📅 Year-by-Year Complete Raw Data Extraction

🔹 NEET PG 2018 (Image 18)

18 Topics

- Rare Disorders of Amino Acid Metabolism
- Amino Acids - Structure & Classification
- Neurotransmitters & Neuromodulators
- DNA - Repair and its Defects
- DNA - Replication
- Nephrolithiasis / Renal Calculi / Kidney Stones
- Carcinoid Syndrome / Carcinoid Tumor
- Enzymes Properties and Kinetics
- Fatty Acid Synthesis
- Pheochromocytoma
- Vitamin K
- Fat Soluble Vitamins
- Tyrosine Metabolism Disorders
- Galactosemia
- Dyslipidemia
- Vitamin B3 / Niacin
- Regulation of Gene Expression / Epigenetics
- Cardiac Biomarkers

🔹 NEET PG 2019 (Image 19)

17 Topics

- Amino Acids - Reactions, Tests & Derivatives
- Albinism
- Autosomal Recessive Disorders
- Urea Cycle & Its Disorders
- Adrenaline / Epinephrine
- Fatty Acid Oxidation and Its Disorders
- Hepatopulmonary & Hepatorenal Syndrome
- Krebs Cycle / TCA Cycle / Citric Acid Cycle
- Hyperammonemia
- Autosomal Dominant Disorders
- Achondroplasia
- Menkes' Disease
- Mitochondrial DNA and its Disorders
- Dyslipidemia
- Hyperlipoproteinemias
- Wilson's Disease
- Fatty Acid Synthesis

🔹 NEET PG 2022 (Image 16)

10 Topics

- Glycogen Storage Disorders
- HMP Shunt Pathway
- Autosomal Recessive Disorders
- Cystic Fibrosis
- Fatty Acid Oxidation and Its Disorders
- Genetic Code
- DNA - Structure and Organization
- Vitamin B2 / Riboflavin
- Vitamin A
- Electron Transport Chain

🔹 NEET PG 2023 (Image 14)

14 Topics

- Vitamin B1 / Thiamine
- Glycogen Storage Disorders
- Sphingolipids, Phospholipids & Acylglycerols
- Coagulation Pathways & Clotting Factors
- Vitamin B3 / Niacin
- Wernicke-Korsakoff Syndrome
- Beriberi
- Alcohol Intoxication
- Acrodermatitis Enteropathica / Zinc Deficiency
- Vitamin C Deficiency / Scurvy
- Fed And Fasting State
- Alkaptonuria
- Lysosomal Storage Disorders
- Vitamin B7 / Biotin

🔹 NEET PG 2024 (Image 17)

21 Topics

- Hyperlipoproteinemias
- Hypercholesterolemia
- Electron Transport Chain
- Vitamin B12 / Cobalamin
- Phrynoderma
- Lesch Nyhan Syndrome
- Galactosemia
- Megaloblastic Anemia
- Vitamin B6 / Pyridoxine
- Lead Poisoning
- Xeroderma Pigmentosum
- Vitamin B1 / Thiamine
- Lysosomal Storage Disorders
- Pellagra
- Vitamin B3 / Niacin
- Glycogen Storage Disorders
- Fatty Acid Oxidation and Its Disorders
- Phenylketonuria / PKU
- Menkes' Disease
- Lactose Intolerance
- Competitive & Non-Competitive Inhibition

🔹 NEET PG 2020 (Image 21)

20 Topics

- Vitamin B12 / Cobalamin
- Vitamin B3 / Niacin
- Cytoskeleton / Intracellular Proteins
- Amino Acids - Structure and Classification
- Post Transcriptional Modification
- Lipoproteins
- Obstructive Jaundice
- Bile Pigments, Bile Salts and Bile Acids
- DNA - Structure and Organization
- Fed And Fasting State
- Gluconeogenesis
- Vitamin B9 / Folic Acid
- Megaloblastic Anemia
- Competitive & Non-Competitive Inhibition
- Enzymes Properties and Kinetics
- Alkaptonuria
- Pellagra
- Cystoid Macular Edema / CME
- Amino Acids - Reactions, Tests & Derivatives
- Nitric Oxide

🔹 NEET PG 2021 (Image 15)

17 Topics

- Vitamin B3 / Niacin
- Pellagra
- WHO Grading of Vitamin A Deficiency
- Vitamin A
- Electron Transport Chain
- Hypercholesterolemia
- Dyslipidemia
- Glycosaminoglycans / GAGs
- Glycogenolysis
- Fed And Fasting State
- Lynch Syndrome / HNPCC
- DNA - Repair and its Defects
- Glycolysis
- Pyruvate Dehydrogenase Complex
- Homocystinuria
- Alkaptonuria
- Lysosomal Storage Disorders

🔹 NEET PG 2025 (Image 20)

11 Topics

- Lysosomal Storage Disorders
- Hyperlipoproteinemias
- Phenylketonuria / PKU
- Collagen Fibres
- Vitamin C Deficiency / Scurvy
- RNA - Transcription and Translation
- Vitamin B12 / Cobalamin
- Fed And Fasting State
- Ketogenesis
- Xeroderma Pigmentosum
- DNA - Repair and its Defects
- Vitamin B1 / Thiamine

📌 **Master Verification & Branding**
Compiled & Verified for: **@the_preload**
Subject: Biochemistry (NEET PG 2018–2025 Full Schema)

MEDICAL PG ENTRANCE EXAM MASTER DIRECTORY

NEET PG ANATOMY PYQ MASTER DIRECTORY

Comprehensive 8-Year Trend Analysis & High-Yield Concept Breakdown (2018–2025)

🔴 High Yield: 6-8 Yrs | 🟡 Medium Yield: 3-5 Yrs | 🟢 Low Yield: 1-2 Yrs | 🎯 80/20 Rule Applied

🔴 HIGH-YIELD TOPICS (Repeated 6 to 8 Years)

Tested virtually every year. Core 20% of the syllabus accounting for 80% of exam weightage.

1. Cranium & Cranial Nerve Foramina

8 / 8 Years (2018–2025)

- **Foramen Rotundum:** Transmits Maxillary nerve (V_2).
- **Foramen Ovale:** Transmits Mandibular nerve (V_3), Accessory meningeal artery, Lesser petrosal nerve, Emissary vein (Mnemonic: **MALE**).
- **Foramen Spinosum:** Transmits Middle meningeal artery, Meningeal branch of V_3.
- **Superior Orbital Fissure:** Structures inside vs. outside the Tendinous Ring of Zinn (CN III, IV, V_1, VI, Ophthalmic veins).
- **Jugular Foramen:** Transmits Glossopharyngeal (CN IX), Vagus (CN X), Accessory (CN XI) nerves, and Internal Jugular Vein.
- **Internal Acoustic Meatus:** Transmits Facial (CN VII) and Vestibulocochlear (CN VIII) nerves, Labyrinthine artery.

2. Cavernous Sinus & Dural Venous Sinuses

8 / 8 Years (2018–2025)

- **Lateral Wall Structures:** Oculomotor nerve (CN III), Trochlear nerve (CN IV), Ophthalmic nerve (V_1), Maxillary nerve (V_2).
- **Center / Internal Structures:** Abducens nerve (CN VI) and Internal Carotid Artery (ICA).
- **Tributaries & Drainage:** Superior & Inferior Ophthalmic veins (key pathway for facial infection spread causing thrombosis), Sphenoparietal sinus, Superior and Inferior Petrosal sinuses.
- **Clinical Correlations:** Cavernous Sinus Thrombosis presentation — ophthalmoplegia, facial numbness, proptosis, and loss of corneal reflex.

3. Brachial Plexus & Upper Limb Peripheral Nerve Lesions

7 / 8 Years (2018–2025)

- **Erb's Palsy (C5–C6 Upper Trunk Injury):** "Waiter's tip" / "Porter's tip" hand presentation; loss of abduction and external rotation.
- **Klumpke's Palsy (C8–T1 Lower Trunk Injury):** "Claw hand" presentation due to loss of intrinsic hand muscles.
- **Radial Nerve:** Wrist drop, Saturday night palsy, crutch palsy; high association with mid-shaft humerus fractures.
- **Median Nerve:** Ape hand deformity, hand of benediction, Carpal Tunnel Syndrome (compression under flexor retinaculum).
- **Ulnar Nerve:** "Claw hand" (main clawing of 4th & 5th digits), Guyon's canal compression, medial epicondyle fracture.

4. Femoral Triangle & Femoral Hernia

7 / 8 Years (2018–2025)

- **Boundaries:** Inguinal ligament (superior), Sartorius (lateral), Adductor longus (medial).
- **Femoral Sheath & Canal Contents (Lateral to Medial):** Femoral Artery, Femoral Vein, Femoral Ring/Canal (Lymph node of Cloquet / Rosenmüller).
- **Femoral Hernia:** High risk of strangulation due to rigid Lacunar (Gimbernat's) ligament medially. Significantly more common in females.

5. Coronary Circulation & Cardiac Anatomy

7 / 8 Years (2018–2025)

- **Coronary Dominance:** Determined by the origin of the Posterior Descending Artery (PDA) — Right dominant (85–90% RCA) vs. Left dominant (10–15% LCX).
- **Nodal Supply:** SA Node supplied by RCA (60%) / LCA (40%); AV Node supplied by RCA (90%).
- **Venous Drainage:** Great cardiac vein (accompanies LAD), Middle cardiac vein (accompanies PDA), Coronary sinus opening in Right Atrium.
- **Right Atrium Features:** Fossa ovalis, Crista terminalis, Musculi pectinati, Sinus venarum.

6. Pharyngeal Arches, Pouches & Clefts

7 / 8 Years (2018–2025)

- **1st Arch:** Muscles of mastication, Malleus, Incus, Mandibular nerve (CN V_3).
- **2nd Arch:** Muscles of facial expression, Stapes, Styloid process, Facial nerve (CN VII).
- **3rd Arch:** Stylopharyngeus muscle, Greater horn of hyoid, Glossopharyngeal nerve (CN IX).
- **4th & 6th Arches:** Cricothyroid, intrinsic laryngeal muscles, laryngeal cartilages, Vagus nerve (CN X - Superior & Recurrent Laryngeal Nerves).
- **3rd Pouch:** Inferior parathyroid glands and Thymus.
- **4th Pouch:** Superior parathyroid glands and Ultimobranchial body.

🟡 MEDIUM-YIELD TOPICS (Repeated 3 to 5 Years)

Recurring secondary concepts regularly featured in clinical scenario-based questions.

7. Inguinal Canal & Hernia Types

5 / 8 Years (2019, 21, 22, 23, 25)

- **Hesselbach's Triangle:** Medial = Rectus abdominis margin, Lateral = Inferior epigastric vessels, Inferior = Inguinal ligament.
- **Direct Inguinal Hernia:** Medial to inferior epigastric vessels, due to weakness in posterior wall (fascia transversalis).
- **Indirect Inguinal Hernia:** Lateral to inferior epigastric vessels, enters deep ring; persistent processus vaginalis.

8. Brainstem Cross-Sections & Cranial Nerve Nuclei

5 / 8 Years (2018, 20, 22, 23, 24)

- **Midbrain Level:** Edinger-Westphal nucleus, Superior/Inferior colliculi, Substantia nigra.
- **Pons Level:** Facial colliculus (Facial nerve motor fibers looping over Abducens nucleus).

- **Medulla Level:** Nucleus ambiguus (CN IX, X, XI motor supply), Nucleus solitarius (Taste & visceral sensory), Hypoglossal nucleus.

9. Bronchopulmonary Segments & Tracheobronchial Tree

4 / 8 Years (2018, 20, 22, 24)

- 10 anatomical segments per lung; each served by its own segmental bronchus and tertiary pulmonary artery branch.
- **Aspirated Foreign Body Location:**
  - **Supine Position:** Superior segment of right lower lobe.
  - **Upright Position:** Posterior basal segment of right lower lobe (due to wider, shorter, more vertical right main bronchus).

10. Neural Crest Cell Derivatives

4 / 8 Years (2019, 21, 23, 25)

- **Key Derivatives List:** Melanocytes, Schwann cells, Chromaffin cells of adrenal medulla, Dorsal root ganglia, Parafollicular C-cells of thyroid, Craniofacial bones/cartilage, Pia and Arachnoid mater, Endocardial cushions.

11. Histology: Lymphoid Organs & Epithelial Types

4 / 8 Years (2018, 21, 23, 25)

- **Thymus:** Hassall's corpuscles in medulla, absence of B-cell lymphoid follicles.
- **Spleen:** Periarteriolar lymphoid sheaths (PALS) containing T-cells, marginal zone.
- **Lymph Node:** Cortex (B-cells/follicles), Paracortex (T-cells, high endothelial venules), Medulla (cords & sinuses).
- **Epithelial Types:** Transitional (Urothelium), Pseudostratified ciliated columnar (Respiratory tract), Simple squamous (Endothelium/Mesothelium).

12. Development of Midgut & Gut Rotation Anomalies

3 / 8 Years (2019, 2021, 2023)

- Physiological herniation into umbilical cord (6th week) and return to abdominal cavity (10th week).
- Total rotation = 270° counterclockwise around the Superior Mesenteric Artery (SMA).
- **Anomalies:** Malrotation with volvulus (Ladd's bands), Omphalocele (covered by peritoneal sac), Gastroschisis (uncovered lateral abdominal wall defect).

🟢 LOW-YIELD TOPICS (Repeated 1 to 2 Years)

One-off or sporadic topics to review quickly during final revision passes.

- **Anatomical Snuffbox Boundaries & Content:** Radial artery in floor, scaphoid fracture tenderness; bounded by Extensor pollicis longus, Extensor pollicis brevis, and Abductor pollicis longus.
- **Sciatic Nerve & Gluteal Region:** Emerges inferior to Piriformis muscle; safe intramuscular injection site is Upper outer quadrant of gluteal region.
- **Perineal Body & Pelvic Floor Musculature:** Central tendon insertion for Levator ani, Sphincter ani externus, Bulbospongiosus, Transverse perinei muscles.
- **Rectus Sheath Boundaries & Contents:** Contains Rectus abdominis, Superior/Inferior epigastric vessels, Segmental intercostal nerves.

- **Tongue Innervation & Development:** Anterior 2/3 (CN V_3 general, CN VII special taste), Posterior 1/3 (CN IX general & taste), Motor (CN XII except Palatoglossus - CN X).
- **Laryngeal Nerve Course:** Recurrent Laryngeal Nerve relation to Inferior Thyroid Artery; Superior Laryngeal Nerve relation to Superior Thyroid Artery.

📊 REPETITION FREQUENCY SUMMARY TABLE

Quick reference table mapping core topics, categories, appearance rates, and priority.

Topic Name	Category	Appearances (2018–2025)	Revision Priority
Cranial Nerve Foramina	Neuroanatomy	8 / 8 Years	🔴 Must-Do (Top Priority)
Cavernous Sinus Anatomy	Neuroanatomy	8 / 8 Years	🔴 Must-Do (Top Priority)
Brachial Plexus & Nerve Injuries	Upper Limb	7 / 8 Years	🔴 Must-Know
Femoral Triangle & Hernia	Lower Limb	7 / 8 Years	🔴 Must-Know
Coronary Circulation & Heart	Thorax	7 / 8 Years	🔴 Must-Know
Pharyngeal Arches & Pouches	Embryology	7 / 8 Years	🔴 Must-Know
Inguinal Canal & Hernia Types	Abdomen	5 / 8 Years	🟡 High Yield
Brainstem Cross-Sections & Nuclei	Neuroanatomy	5 / 8 Years	🟡 High Yield
Bronchopulmonary Segments	Thorax	4 / 8 Years	🟡 Medium Yield
Neural Crest Cell Derivatives	Embryology	4 / 8 Years	🟡 Medium Yield
Histology (Lymphoid & Epithelia)	Histology	4 / 8 Years	🟡 Medium Yield
Midgut Rotation & Gut Defects	Embryology	3 / 8 Years	🟡 Medium Yield
Sciatic Nerve & Gluteal Region	Lower Limb	2 / 8 Years	🟢 Revision Only
Anatomical Snuffbox	Upper Limb	2 / 8 Years	🟢 Revision Only
Pelvic Floor & Perineal Body	Pelvis & Perineum	1 / 8 Years	🟢 Revision Only

🎯 MUST-DO TOPIC CHECKLIST (NON-NEGOTIABLE FOR EXAM DAY)

Verify mastery of these 10 non-negotiable topics before sitting for the NEET PG exam.

- ☑ **All Cranial Nerve Foramina & Transmitting Structures:** Foramen Ovale (MALE), Rotundum (V_2), Superior Orbital Fissure, Jugular Foramen.
- ☑

Cavernous Sinus Relations & Tributaries: Structures in wall vs. center (ICA, CN VI); Cavernous sinus thrombosis symptoms.

- ☑ **Brachial Plexus Nerve Injuries:** Root values, Erb's vs. Klumpke's palsy, Radial/Median/Ulnar nerve cutaneous and motor deficits.
- ☑ **Pharyngeal Arch & Pouch Derivatives:** Nerves, muscles, cartilages, and gland structures derived from arches 1–6 and pouches 1–4.
- ☑ **Femoral Canal & Inguinal Canal Anatomy:** Femoral ring boundaries, Cloquet's node, Direct vs. Indirect hernia boundaries via Hesselbach's triangle.
- ☑ **Coronary Artery Dominance & Nodal Blood Supply:** RCA vs. LCA origin of PDA, SA/AV node blood supply, coronary sinus relations.
- ☑ **Neural Crest Cell Derivatives List:** High-speed memory-based rapid question source.
- ☑ **Cross-Sections of Midbrain, Pons, and Medulla:** CN III to XII nucleus locations and associated brainstem syndromes.
- ☑ **Bronchopulmonary Segments & Foreign Body Aspiration Pathways:** Anatomy of right vs. left main bronchi in supine vs. upright.
- ☑ **Histology Identification Points:** Thymus Hassall's corpuscles, Lymph node zones, Spleen white/red pulp (PALS).

💡 **Quick Revision Strategy:** Focus 80% of your remaining anatomy review time on the Top 6 High-Yield topics. Revisit the summary table and non-negotiable checklist 24–48 hours prior to the exam for optimal recall.

BUZZWORD PUNIT PG • PART 10

Neonatal Conjunctivitis

High-Yield NEET-PG Timing-Based Quick Reference Guide

Instagram: @the_preload

Credits: Dr. Zainab Vora Mam

1. Chemical Conjunctivitis

Timing: < 24 Hours

- Usually due to ocular prophylaxis, classically **silver nitrate**
- **Onset:** Within first 24 hours after birth
- Mild conjunctival redness/irritation & watery tearing
- Self-limiting clinical course

Treatment: Lubricants / supportive care

🧠 **Anchor:** <24 h = Chemical

⚠️ **Exam Trap:** Don't call this gonococcal just because it occurs immediately after birth.

2. Gonococcal Conjunctivitis ⭐⭐⭐

Timing: 2–5 Days

Organism: Neisseria gonorrhoeae

- **Onset:** 2–5 days after birth
- **Profuse thick purulent discharge** + marked eyelid edema & chemosis
- **Complications:** Corneal ulceration → corneal perforation → blindness
- **MEDICAL EMERGENCY**

Treatment: Systemic ceftriaxone (or cefotaxime if appropriate).
🚨 **TOPICAL therapy alone is NOT sufficient!**

🧠 **Anchor:** GONO = 2–5 days + Gushing pus + corneal destruction

🚨 **NEET Trap:** Gonococcal conjunctivitis can rapidly cause corneal ulceration/perforation.

3. Chlamydial Conjunctivitis ⭐⭐⭐

Timing: 5–14 Days

Organism: Chlamydia trachomatis

- **Onset:** 5–14 days after birth
- Eyelid swelling, chemosis, watery → mucopurulent discharge
- May be associated with **chlamydial pneumonia** (cough/tachypnea)

Treatment: Oral erythromycin / appropriate systemic macrolide.
⚠️ **Topical treatment alone is inadequate (systemic infection).**

🧠 **Anchor:** CHLAMYDIA = 5–14 days + mucopurulent + pneumonia

4. Herpes Simplex Conjunctivitis (HSV)

Timing: 6–14 Days

Organism: HSV (Neonatal infection)

- **Onset:** Usually 6–14 days
- Vesicular skin lesions may be present
- Keratoconjunctivitis; can progress to encephalitis / disseminated disease

Treatment: IV acyclovir for serious/neonatal disease

🧠 **Anchor:** Vesicles + neonatal conjunctivitis → HSV

🔥 SUMMARY MINI-TABLE — TIMING BREAKDOWN

Timing	Etiology	Key Features	Management
< 24 hours	Chemical	Mild irritation + tearing	Lubricants
2–5 days	Gonococcus	Profuse purulent discharge + corneal ulcer	Systemic ceftriaxone
5–14 days	Chlamydia	Mucopurulent/watery discharge ± pneumonia	Oral erythromycin
6–14 days	HSV	Vesicles + Keratoconjunctivitis	IV acyclovir

🎯 NEET-PG QUESTION FRAMES

Q1. A newborn develops conjunctival redness and tearing 12 hours after birth following ocular prophylaxis.
→ **Chemical conjunctivitis**

Q2. A 3-day-old neonate has massive purulent discharge, severe eyelid edema and corneal ulceration.
→ **Gonococcal conjunctivitis (Organism: N. gonorrhoeae | Tx: Systemic ceftriaxone)**

Q3. A 10-day-old neonate develops conjunctivitis with mucopurulent discharge. (If added cough/tachypnea)
→ **Chlamydia trachomatis (Chlamydial pneumonia)**

Q4. Which neonatal conjunctivitis has the greatest risk of corneal perforation/blindness?
→ **Gonococcal**

Q5. Neonatal conjunctivitis + vesicular skin lesions?
→ **HSV**

🧠 20-SECOND REVISION BOX

CHEMICAL: <24 h → watery/mild → lubricant

GONO: 2–5 d → 💥 PROFUSE PUS + CORNEAL ULCER → ceftriaxone

CHLAMYDIA: 5–14 d → mucopurulent + pneumonia → oral macrolide

HSV: ~6–14 d → vesicles/keratitis → acyclovir

🔑 **Ultimate Memory: "24 – 5 – 14" | <24 = Chemical • 2–5 = Gono • 5–14 = Chlamydia**

Purpose: Instant retrievability in NEET-PG / INI-CET exams.

NEET-PG HIGH-YIELD BUZZWORDS

Part 09 — Renal Masses, Bone Disease, Infections & Respiratory

Credits: Dr. Zainab Vora, Mam **Instagram:** @the_preload

1. BONE PAIN & METABOLIC BONE DISEASE

1. Bone pain + hearing loss + ↑ ALP

✍️ **PAGET DISEASE OF BONE**

- **Pathophysiology:** ↑ Osteoclast activity followed by disorganized osteoblast activity.
- **Labs:** ↑ **ALP**, Serum Ca^{2+} and Phosphate are usually **normal**.
- **Clinical Features:** Bone pain, deformity, pathological fractures.
- **Skull Involvement:** Leads to hearing loss.
- **X-ray:** *Cotton-wool skull* appearance.
- **Bone Scan: HOT** spot (increased uptake).
- **Treatment:** Bisphosphonates → **Zoledronic acid**.

🧠 **Anchor: Paget = Pain + Hearing loss + ↑ ALP + Cotton-wool skull**

⚠️ **Question Twist:** Most common cause of hearing loss in Paget → Ossicle/cochlear involvement due to skull disease.

2. Bone pain + normal ALP + COLD spot

✍️ **MULTIPLE MYELOMA**

- Lytic bone lesions, severe bone pain, pathological fractures.
- **ALP:** Usually **normal**.
- **Bone Scan: COLD / normal** because lesions are purely lytic (no osteoblastic reaction).
- **X-ray:** Punched-out lesions.
- **Associated Criteria (CRAB):**
  - **C**alcium ↑ (Hypercalcemia)
  - **R**enal dysfunction
  - **A**nemia
  - **B**one lesions

🧠 **Very Important: Myeloma = Lytic → ALP normal + Bone scan COLD**

⚠️ **Contrast:** Osteoblastic metastasis → HOT scan + ↑ ALP.

3. ↑ ALP + xanthelasma + osteomalacia

✍️ **PRIMARY BILIARY CHOLANGITIS (PBC)**

- Chronic autoimmune destruction of small intrahepatic bile ducts.
- **Cholestatic LFT:** Marked ↑ **ALP**.
- Pruritus + Xanthelasma / xanthomas due to hyperlipidemia.
- Fat-soluble vitamin deficiency → **Osteomalacia**.
- **Antibody:** Anti-mitochondrial antibody (**AMA-M2**) positive.
- **Classically:** Middle-aged woman.

🧠 **Anchor: PBC = Pruritus + ↑ ALP + AMA + Xanthomas**

2. HIGH-YIELD OSTEOMYELITIS & INFECTION ASSOCIATIONS

4. Osteomyelitis after foot-wound puncture

✍️ **PSEUDOMONAS AERUGINOSA**

- **Classic Presentation:** Puncture wound through a rubber-soled shoe / sneaker → *Pseudomonas* osteomyelitis.

🧠 **Anchor: 👟 Puncture through shoe = Pseudomonas**

5. Osteomyelitis in sickle-cell disease

✍️ **SALMONELLA** ⭐ **High Yield**

- Most characteristic organism in SCD osteomyelitis.
- *Staph aureus* remains an important overall cause, but *Salmonella* is the classic specific association.

🧠 **Anchor: Sickle cell → Salmonella**

Clinical Scenario	Associated Organism
General Osteomyelitis	*Staphylococcus aureus*
Puncture wound through shoe	*Pseudomonas aeruginosa*
Sickle Cell Disease Osteomyelitis	*Salmonella*

6. Aplastic crisis in sickle-cell anemia

✍️ **PARVOVIRUS B19**

- Infects erythroid precursors in bone marrow.
- Sudden fall in Hb with **Reticulocytes** ↓↓↓.
- Temporary cessation of erythropoiesis (usually self-limited).

🧠 **Anchor: B19 = Bone marrow stops RBC production**

⚠️ **Compare:** SCD Hemolytic crisis → Reticulocytes ↑ | Aplastic crisis → Reticulocytes ↓

3. RENAL MASSES & RETROPERITONEAL SYNDROMES

7. Sickle-cell trait + renal mass

✍️ RENAL MEDULLARY CARCINOMA ⭐⭐⭐

- Rare, highly aggressive renal tumor in young patients.
- Strong association with **Sickle-cell trait** (not necessarily disease).
- Usually medullary location; presents with hematuria and flank pain.

> 🧠 **Anchor: Sickle trait → Renal MEDULLARY carcinoma**

8. Renal mass + hypertension + palpitations

✍️ PHEOCHROMOCYTOMA

- Classic presentation: Hypertension + palpitations + headache + sweating (3 P's: Pressure + Palpitations + Perspiration).
- Catecholamine excess; episodic attacks.
- **Diagnostics:** ↑ Plasma free metanephrines / urinary fractionated metanephrines.
- **Treatment: α-blockade BEFORE β-blockade**.

> 🧠 **Anchor: Pheo = 3 P's → Pressure + Palpitations + Perspiration**

> ⚠️ **Differential Note:** If renal mass + severe hypertension + hypokalemia + ↑ renin → Think **Reninoma** (Juxtaglomerular cell tumor).

9. Pneumothorax + renal mass + follicular skin lesions

✍️ BIRT-HOGG-DUBÉ SYNDROME ⭐⭐⭐

- **Mutation:** *FLCN* (folliculin).
- **Triad:**
  - **Fibrofolliculomas:** Follicular skin lesions
  - **Renal tumors:** Bilateral/multiple
  - **Lung cysts:** Spontaneous pneumothorax

> 🧠 **Anchor: BHD = Skin + Kidney + Lung**

10. Renal mass + retroperitoneal bleed

✍️ RENAL ANGIOMYOLIPOMA (AML)

- **Components:** Angio (vessels) + Myo (smooth muscle) + Lipo (fat).
- Benign renal tumor, strongly associated with **Tuberous Sclerosis**.
- Large AML can rupture → **Retroperitoneal hemorrhage**.
- **Imaging:** Macroscopic fat in renal mass.

> 🧠 **Anchor: AML = FAT + BLEED**

4. NEURO & ANESTHESIA HIGH-YIELDS

11. Seated craniotomy + sudden fall in $EtCO_2$

✍️ VENOUS AIR EMBOLISM ⭐⭐⭐⭐

- Sitting neurosurgery → Surgical site above heart level.
- Negative venous pressure → Air enters venous circulation.
- **Signs:** Sudden ↓ $EtCO_2$, hypotension, hypoxemia, tachycardia.
- **Management:** Stop surgery/air entry, 100% O_2, hemodynamic support, position/aspirate.

🧠 **Anchor: Seated craniotomy + sudden ↓ $EtCO_2$ = Air embolism**

12. Confusion + ophthalmoplegia + ataxia

✍️ WERNICKE ENCEPHALOPATHY

- **Etiology:** Thiamine (B1) deficiency.
- **Classic Triad (C-O-A):** Confusion + Ophthalmoplegia + Ataxia.
- Risk factors: Alcohol-use disorder, malnutrition, severe vomiting, bariatric surgery.

🧠 **Anchor: Wernicke = C-O-A → Confusion + Ophthalmoplegia + Ataxia**

🚨 **Exam Trap:** Give **THIAMINE BEFORE GLUCOSE** in high-risk patients!

5. RESPIRATORY & CILIARY DISORDERS

13. Frozen hemithorax

✍️ FIBROTHORAX

- Dense pleural fibrosis & pleural thickening → Lung cannot expand (restrictive pattern).
- May follow chronic empyema, TB, or hemothorax.

🧠 **Anchor: Frozen lung = Fibrotic pleura = Fibrothorax**

14. Fibrotic upper-lobe masses

✍️ PROGRESSIVE MASSIVE FIBROSIS (PMF) / SILICOSIS

- Large fibrotic masses predominantly in **upper lobes**.
- **Silicosis:** Associated with *eggshell calcification* of hilar lymph nodes and ↑ TB risk.

🧠 **Anchor: Silica → Upper-lobe fibrosis + Eggshell nodes + TB**

⚠️ **Contrast:** Asbestosis → Lower-lobe interstitial fibrosis + pleural plaques.

15 & 16. Primary Ciliary Dyskinesia vs. Kartagener Syndrome

✍️ KARTAGENER SYNDROME ⭐⭐⭐⭐

- Defect: **Dynein arm dysfunction** → Impaired ciliary motility.
- **Kartagener Triad:**
    1. Situs inversus
    2. Chronic sinusitis
    3. Bronchiectasis
- Associated with recurrent otitis media and male infertility (immotile sperm) / female subfertility.

> 🧠 **Key Distinction: PCD = Ciliary dyskinesia | Kartagener = PCD + Situs Inversus**

🧠 20-SECOND NEET-PG REVISION BOX

- **Paget:** Bone pain + hearing loss + ↑ ALP + cotton-wool skull
- **Myeloma:** Bone pain + normal ALP + cold bone scan + punched-out lesions
- **PBC:** ↑ ALP + xanthelasma + osteomalacia + AMA positive
- **Puncture wound:** *Pseudomonas aeruginosa*
- **Sickle osteomyelitis:** *Salmonella*
- **Sickle aplastic crisis:** Parvovirus B19 + Reticulocytes ↓↓↓
- **Sickle trait + renal mass:** Renal Medullary Carcinoma
- **Pneumothorax + renal tumor + fibrofolliculomas:** Birt-Hogg-Dubé
- **Renal mass + retroperitoneal bleed:** Angiomyolipoma (AML)
- **Seated craniotomy + ↓ $EtCO_2$:** Venous Air Embolism
- **Confusion + ophthalmoplegia + ataxia:** Wernicke Encephalopathy
- **Frozen hemithorax:** Fibrothorax
- **Upper-lobe fibrotic masses:** Silicosis / PMF
- **PCD + situs inversus:** Kartagener Syndrome

BUZZWORDS — PART FOUR

NEET-PG ORIENTED

High-Yield Clinical Clues, Diagnostic Traps & Minimum Concepts

Instagram: @the_preload

Credits: **Dr. Zainab Vora Mam**

1. Patient fails to lactate after delivery + marked blood loss

✍️ **Write: SHEEHAN SYNDROME (Postpartum pituitary necrosis due to severe PPH/hypotension)**

MUST KNOW CONCEPTS

- Ischemic necrosis of the **anterior pituitary** classically following severe postpartum hemorrhage.
- **Earliest / Classic clue:** Failure to lactate due to decreased prolactin (↓ Prolactin).
- **Later manifestations:** Amenorrhea, loss of axillary/pubic hair, hypothyroidism, adrenal insufficiency, hypoglycemia.

🧠 **NEET TRAP**

Postpartum hemorrhage + failure to lactate = **Sheehan Syndrome** (NOT prolactinoma).

2. Galactorrhea + amenorrhea + bitemporal hemianopia

✍️ **Write: PROLACTINOMA**

MECHANISM & KEY QUESTIONS

- **Mechanism:** ↑ Prolactin → ↓ GnRH → ↓ LH/FSH → Amenorrhea. Optic chiasm compression → Bitemporal hemianopia.
- **Most common functioning pituitary adenoma:** Prolactinoma.
- **Best initial treatment: Cabergoline** (Dopamine agonist).

🧠 **Memory Hook:** Prolactin → Pregnancy-like breast + Periods stop.

3. Sudden headache + shock + hypopituitarism

✍️ **Write: PITUITARY APOPLEXY**

MUST KNOW CONCEPTS

- Acute hemorrhage or infarction within a pre-existing pituitary adenoma.
- **Classic triad/presentation:** Sudden severe headache, visual disturbance/ophthalmoplegia, altered consciousness, hypotension/shock (due to acute ACTH deficiency).
- **Emergency Treatment: IV Hydrocortisone**.

🧠 **DISTINGUISH**

Sudden headache + ophthalmoplegia + shock → **Pituitary Apoplexy**.

4. Hot shower worsens neurological symptoms

✍️ **Write: UHTHOFF PHENOMENON (Associated with Multiple Sclerosis)**

MECHANISM & TRIGGERS

- Temporary worsening of neurological symptoms with increased body temperature (heat worsens conduction through demyelinated axons).
- **Triggers:** Hot bath/shower, fever, physical exercise.
- **NEET Frame:** MS patient develops transient worsening of vision/weakness after a hot shower → Uhthoff phenomenon.

EXTREMELY HIGH-YIELD

5. Shower worsens pruritus (Aquagenic Pruritus)

✍️ **Write: AQUAGENIC PRURITUS → POLYCYTHEMIA VERA**

- Patient develops severe itching after bath, shower, or contact with water (usually without primary skin lesions).
- **Mechanism:** Abnormal mast-cell / basophil mediator release.

🧠 **Memory Hook:** Water → Itching → Think **Polycythemia Vera (PV)**.

6. Diarrhea + dermatitis + alopecia + hypogonadism

✍️ **Write: ZINC DEFICIENCY / ACRODERMATITIS ENTEROPATHICA**

MUST KNOW CONCEPTS

- Causes periorificial & acral dermatitis, alopecia, diarrhea, growth retardation, and hypogonadism.
- **Inherited form:** Acrodermatitis enteropathica (Defect in **ZIP4 zinc transporter**).

🧠 **Mnemonic:** ZINC = **Z**-skin + **I**nfections + **N**o hair + **C**holeric diarrhea.

7. Pancreatic mass + dermatitis + depression + DVT + diabetes

✍️ **Write: GLUCAGONOMA (Skin lesion: Necrolytic Migratory Erythema)**

- Excess glucagon → Marked catabolic state.
- **Classic Octad:** Diabetes mellitus, Necrolytic Migratory Erythema (NME), weight loss, anemia, glossitis, DVT/ thrombosis, depression.
- **Key Clue:** Pancreatic tumor + Diabetes + Characteristic dermatitis → Glucagonoma.

8. Appendix mass + diarrhea + dermatitis + dementia

✍️ **Write: CARCINOID TUMOR → NIACIN DEFICIENCY (PELLAGRA)**

- **Mechanism:** Carcinoid tumor produces excess serotonin. Tryptophan is diverted toward serotonin synthesis → severe lack of tryptophan for niacin synthesis → Niacin deficiency.
- **Pellagra Triad (3 D's):** **D**ermatitis + **D**iarrhea + **D**ementia (Severe → Death).

9. Infection + megaloblastic anemia

✍️ **DIPHYLLOBOTHRIUM LATUM**

- Fish tapeworm from raw freshwater fish.
- Competes for Vitamin B12 → B12 deficiency → Megaloblastic anemia + Neuro symptoms.

🧠 **FISH** → B12 thief → Megaloblastic anemia.

10. Infection + iron deficiency anemia

✍️ **HELICOBACTER PYLORI**

- Associated with refractory / unexplained IDA.
- Mechanism: ↓ Gastric iron absorption, gastric blood loss, bacterial competition.

🔥 Refractory IDA despite oral iron → Consider *H. pylori*.

MAJOR NEET TRAP

11. Hemolytic anemia + loss of vibration & proprioception

✍️ **Write: VITAMIN E DEFICIENCY**

Vitamin E Deficiency:
Hemolytic Anemia + Posterior Column Signs (Vibration/ Proprioception loss, Ataxia, Neuropathy).

Vitamin B12 Deficiency:
Megaloblastic Anemia + Posterior Column Signs (Subacute Combined Degeneration).

🎯 KNUCKLE FINDINGS DIFFERENTIAL DIAGNOSIS

12. Knuckle Hyperpigmentation: ✍️ VITAMIN B12 DEFICIENCY
Classic cutaneous clue. Occurs alongside megaloblastic anemia, glossitis, and angular cheilitis. *(Don't automatically answer Addison's!)*

13. Knuckle Callus: ✍️ RUSSELL SIGN → BULIMIA NERVOSA
Trauma over dorsum of hand from teeth due to recurrent self-induced vomiting.

14. Knuckle Erythema: ✍️ GOTTRON PAPULES → DERMATOMYOSITIS
Violaceous papules over MCP/PIP joints. Associated with proximal weakness, heliotrope rash, shawl sign. *(SLE trap: SLE spares knuckles, Dermatomyositis involves them!)*

15. CLD + Ascitic fluid >250 cells/mm³

✍️ **SPONTANEOUS BACTERIAL PERITONITIS (SBP)**

- Ascitic PMN ≥ 250 cells/mm³ = SBP.
- Common: *E. coli*, *Klebsiella*, Streptococci.
- **Rule:** Don't wait for culture to start treatment!

16. SAAG ≥ 1.1 g/dL

✍️ **PORTAL HYPERTENSION**

- **Formula:** SAAG = Serum Albumin – Ascitic Albumin.
- **SAAG ≥ 1.1:** Portal HTN (Cirrhosis, Heart Failure, Budd-Chiari).
- **SAAG < 1.1:** Non-portal hypertensive causes.

⚡ PAGE 4 — 20-SECOND REVISION SHEET

Clinical Scenario / One-Liner	Diagnosis / Target Answer
PPH + failure to lactate	**SHEEHAN SYNDROME**
Galactorrhea + amenorrhea + bitemporal hemianopia	**PROLACTINOMA**
Sudden headache + shock + hypopituitarism	**PITUITARY APOPLEXY**
Heat / hot shower worsens neuro symptoms	**UHTHOFF PHENOMENON (MS)**
Water contact causes severe itching	**POLYCYTHEMIA VERA**
Diarrhea + dermatitis + alopecia + hypogonadism	**ZINC DEFICIENCY**

Clinical Scenario / One-Liner	Diagnosis / Target Answer
Pancreatic mass + DM + necrolytic erythema	**GLUCAGONOMA**
Carcinoid / appendix tumor + 3 D's	**NIACIN DEFICIENCY (PELLAGRA)**
Fish tapeworm + megaloblastic anemia	**DIPHYLLOBOTHRIUM LATUM**
Refractory iron deficiency anemia	**H. PYLORI INFECTION**
Hemolytic anemia + loss of proprioception/vibration	**VITAMIN E DEFICIENCY**
Knuckle hyperpigmentation	**VITAMIN B12 DEFICIENCY**
Knuckle callus (Russell sign)	**BULIMIA NERVOSA**
Knuckle erythema (Gottron papules)	**DERMATOMYOSITIS**
Ascitic fluid PMN ≥ 250 cells/mm³	**SBP (Spontaneous Bacterial Peritonitis)**
SAAG ≥ 1.1 g/dL	**PORTAL HYPERTENSION**

🎯 CRITICAL TRAP 1: Anemia + Neuro

- **Vit B12 Deficiency:** Megaloblastic Anemia + Posterior column neurological deficits.
- **Vit E Deficiency:** Hemolytic Anemia + Posterior column neurological deficits.

🎯 CRITICAL TRAP 2: Knuckle Signs

- **Hyperpigmentation:** B12 Deficiency.
- **Callus (Russell Sign):** Bulimia Nervosa.
- **Erythema (Gottron):** Dermatomyositis (Spares in SLE).

NEET PG HIGH-YIELD REVISION

HEADING BUZZ WORDS — PART 3

Instagram: @the_preload
Credits: **Dr. Zainab Vora Mam**

DIAGNOSTIC SUMMARY TABLE

DIAGNOSIS	KEY CLUES & CLINICAL PRESENTATION
Croup (Laryngotracheobronchitis)	6 mo–6 yr • Barking cough • Fever • Rhinorrhea/ congestion • Steeple sign
Laryngomalacia	4–8 mo peak • Persistent stridor • Worse in supine • Improves in prone
Foreign Body	Acute onset • Sudden choking/coughing • Moderate-severe distress • Unilateral ↓ air entry
Tracheomalacia	Presents <1 yr • Persistent stridor • Improves with neck extension • ~50% Cardiac anomalies

STRIDOR — 4 MUST KNOW

Croup
6 mo–6 yr + barking cough + fever

Laryngomalacia
MC congenital stridor (4–8 mo) • ↑ supine, ↓ prone

Foreign Body
Sudden/acute stridor + choking episode

Tracheomalacia
Persistent (<1 yr) • ↑ collapse • Cardiac links

1 Croup *(Laryngotracheobronchitis)*

- **Anchor:** Barking cough + inspiratory stridor + child = Croup
- **Etiology:** Viral (classically *Parainfluenza virus*)
- **Features:** Hoarseness, **Steeple sign** on AP neck X-ray

TREATMENT PEARL
- Mild: Dexamethasone
- Moderate/Severe: Dexamethasone + Nebulized Epinephrine

⚠ **DDX: EPIGLOTTITIS**
Croup = Barking cough | Epiglottitis = Drooling + Dysphagia + Tripod position

2 Laryngomalacia

- **Most common congenital cause of stridor**
- **Pathophysiology:** Floppy supraglottic structures collapse inward during inspiration
- **Course:** Stridor worse feeding/crying/supine, improves prone. Resolves spontaneously by 18–24 mo

⚠ **SEVERE COMPLICATIONS**
Feeding difficulty, Failure to Thrive (FTT), Apnea / Cyanosis

3 Laryngotracheal Foreign Body

- **Anchor:** Sudden stridor in an otherwise normal child = FB until proven otherwise
- **Presentation:** Sudden choking, coughing, acute respiratory distress
- **Signs:** Unilateral decreased air entry if passed into a bronchus

⚠ **URGENT ACTION**
Don't wait for a chest X-ray if severe airway obstruction exists. Airway management is priority #1!

4 Tracheomalacia

- **Pathophysiology:** Weakness/softness of tracheal cartilage → dynamic airway collapse
- **Key Feature:** Improves with neck extension
- **Key Associations:**
  - Congenital cardiac disease (~50%)
  - TE fistula / Esophageal atresia
  - Prematurity & External vascular compression

NEET PG QUESTION FRAMES

Q1. 2yo with fever, rhinorrhea, barking cough & inspiratory stridor.
→ **Croup**

Q2. 6mo with chronic stridor, worse lying supine, improves prone.
→ **Laryngomalacia**

Q3. Healthy child with sudden stridor & distress while eating.
→ **Airway foreign body**

Q4. Infant with persistent stridor & associated congenital heart disease.
→ **Tracheomalacia**

Q5. Most common congenital cause of stridor?
→ **Laryngomalacia**

Q6. Treatment for child with moderate/severe croup?
→ **Dexamethasone + Nebulized Epinephrine**

⚡ **20-SECOND HIGH-YIELD REVISION** ⚡

BARK → CROUP | FLOPPY SUPRAGLOTTIS + SUPINE → LARYNGOMALACIA |
SUDDEN CHOKING → FOREIGN BODY | FLOPPY TRACHEA + CARDIAC → TRACHEOMALACIA

DIFFERENTIAL DIAGNOSIS OF DYSMENORRHEA

High-Yield NEET-PG Clinical Review & Discriminating Clues

Content Credit: **Dr. Zainab Vora**

Instagram: @the_preload

1 Primary Dysmenorrhea

✍️ Write: PRIMARY DYSMENORRHEA

Crampy lower abdomen + back pain during menses + normal examination

Key Facts:

- Begins **6–12 months after menarche**, once ovulatory cycles are established.
- **No pelvic pathology** → completely normal pelvic examination.
- Pain starts just before or with the onset of menstruation.
- Pathophysiology: ↑ **Endometrial prostaglandins (PGF-2α)** → uterine hypercontractility + ischemia.
- Associated systemic symptoms: Nausea, vomiting, diarrhea, headache.

🔥 **NEET-PG Trap:** Normal pelvic examination + pain limited to around menses → **Primary Dysmenorrhea**.

💊 **Treatment: NSAIDs (1st-line) → Suppress prostaglandin synthesis**

🧠 **Memory Anchor:** PRIMARY = Period pain + Pelvis normal + Prostaglandins

2 Endometriosis

✍️ Write: ENDOMETRIOSIS

Pain peaks BEFORE menses + deep dyspareunia + infertility

Classic Triad:

- **Dysmenorrhea** (starts before period, persists during/after)
- **Deep Dyspareunia**
- **Infertility**

Other Clues: Chronic pelvic pain, cyclical bowel/bladder symptoms.

🔥 **NEET-PG Trap:** Dysmenorrhea + Infertility + Deep Dyspareunia = **Endometriosis** until proven otherwise.

🧠 **Memory Anchor:** ENDOMETRIOSIS = End-period pain + Dyspareunia + Infertility

3 Uterine Leiomyoma (Fibroid)

✍️ Write: UTERINE LEIOMYOMA

Heavy menses with clots + pelvic heaviness + compression + enlarged uterus

Symptom Mechanism & Findings:

- Submucosal/intramural fibroids → **Heavy menstrual bleeding (menorrhagia) with clots**.
- Pelvic heaviness & mass effect compressing Bladder (→ urinary frequency) or Rectum (→ constipation).
- **Examination Clue:** Enlarged, **irregular**, and **firm** uterus.

🔥 **NEET-PG Twist:** Menorrhagia + enlarged **irregular** uterus → Think **Fibroid**.

🧠 **Memory Anchor:** FIBROID = Flooding + Fullness + Firm irregular enlarged uterus

4 Adenomyosis

✍️ Write: ADENOMYOSIS

Dysmenorrhea + pelvic pain + menorrhagia + bulky, globular, tender uterus

Key Features:

- Pathology: Endometrial glands/stroma embedded within the myometrium.
- Classically seen in **multiparous women** of reproductive/perimenopausal age.

🔥 **Very High-Yield Distinction:**
- **Fibroid:** Enlarged, irregular, firm uterus.
- **Adenomyosis:** Bulky, globular, uniformly enlarged, and tender uterus.

🧠 **Memory Anchor:** ADENO = A BIG tender uterus

5 Pelvic Congestion Syndrome

✍️ Write: PELVIC CONGESTION

Dull, ill-defined pelvic ache worse with standing + dyspareunia

Clinical Clues:

- Etiology: Pelvic venous insufficiency / varicosities.
- Chronic dull pelvic pain, **worsens after prolonged standing** & toward end of day.
- Post-coital ache & dyspareunia; common in multiparous women.

🧠 **Memory Anchor:** PELVIC CONGESTION = Pain when upright

🔥 THE 5-WAY NEET-PG RAPID DIFFERENTIATION BOX

Condition	Key Clinical Presentation	Uterine / Pelvic Exam Findings
Primary Dysmenorrhea	Pain only with menses	**Normal** examination
Endometriosis	Dysmenorrhea (pain *before* menses) + Dyspareunia + Infertility	Normal or uterosacral nodularity / fixed uterus
Fibroid (Leiomyoma)	Menorrhagia with clots + Pelvic fullness + Constipation/ Frequency	Enlarged, **irregular**, firm uterus
Adenomyosis	Severe dysmenorrhea + Menorrhagia (multiparous)	Bulky, **globular**, uniformly enlarged & **tender**
Pelvic Congestion	Chronic dull pain **worse on standing** + Dyspareunia	Pelvic varicosities / non-specific tenderness

🚨 NEET-PG EXAM VIGNETTES

Q1. 16-year-old girl with severe crampy lower abdominal pain beginning with menses. Normal pelvic exam.
→ **Primary Dysmenorrhea**

Q2. 30-year-old woman with progressively worsening dysmenorrhea, deep dyspareunia, and infertility. → **Endometriosis**

Q3. 40-year-old woman with heavy menses, constipation, and urinary frequency. Exam shows enlarged irregular uterus.
→ **Fibroid**

Q4. 42-year-old multiparous woman with severe dysmenorrhea and menorrhagia. Uterus is uniformly enlarged, globular, and tender.
→ **Adenomyosis**

Q5. Multiparous woman with chronic dull pelvic pain worse after prolonged standing and associated with dyspareunia.

→ **Pelvic Congestion Syndrome**

🧠 20-SECOND RAPID REVISION BOX

- Period-only pain + normal pelvis → **PRIMARY**
- Pain BEFORE period + infertility/dyspareunia → **ENDOMETRIOSIS**
- Heavy bleeding + irregular enlarged uterus → **FIBROID**
- Heavy bleeding + globular tender bulky uterus → **ADENOMYOSIS**
- Chronic dull pain + worse standing → **PELVIC CONGESTION**

> **"Irregular = Fibroid; Globular & tender = Adenomyosis; Infertility + dyspareunia = Endometriosis; Standing = Pelvic congestion; Normal pelvis = Primary."**

BUZZ WORDS PART V

Differential Diagnosis of Chest Pain

High-Yield NEET PG Rapid Revision & Trap Alert Guide

Credit: Dr. Zainab Vora Ma'am

Instagram: @the_preload

1 Substernal pain + radiation to arm/shoulder/jaw + exertional + relieved by rest/NTG

STABLE ANGINA

NEET PG MUST KNOW

- **Pathophysiology:** Exertional chest pain → myocardial O_2 demand ↑
- **Relief:** Relieved by rest / nitroglycerin (NTG); usually lasts **< 20 min**
- **Pattern:** Predictable with similar exertion | **Radiation:** Left arm, shoulder, jaw
- **ECG:** May be normal at rest; during pain → **ST depression**

🧠 MASTER ANCHOR

"EXERTION → ANGINA; REST → RELIEF."

⚠️ EXAM TRAP

Pain at rest / new-onset / crescendo pattern → Think **ACS / Unstable Angina**, NOT stable angina.

2 Sharp/stabbing + pleuritic + worse supine + relieved sitting forward

ACUTE PERICARDITIS

NEET PG MUST KNOW

- **Key Features:** Pleuritic chest pain; worse lying flat, better sitting up & leaning forward
- **Physical Exam:** May present with a **pericardial friction rub**
- **ECG Findings:** Diffuse **ST elevation** + **PR depression**

🧠 MASTER ANCHOR

"PERICARDIUM = FORWARD."

⚠️ DON'T CONFUSE WITH STEMI

Pericarditis: Diffuse ST elevation.
STEMI: Territorial ST elevation.

3 Sudden severe "tearing" pain → radiating to back

AORTIC DISSECTION

NEET PG MUST KNOW

- **Onset & Character:** Sudden maximal-at-onset, "tearing/ripping" pain radiating to back
- **Risk Factors & Signs:** HTN is major risk factor; pulse/BP asymmetry between limbs
- **Complications:** Aortic regurgitation, MI, Stroke, Renal ischemia, Limb ischemia

🧠 MASTER ANCHOR

"TEAR → BACK = DISSECTION."

🔥 HIGH-YIELD EXAM TRAP

Chest pain + **new early diastolic murmur** → Think **Aortic Dissection with acute AR**.

4 Nonexertional + relieved by antacids + regurgitation/dysphagia + nocturnal

GERD / REFLUX

NEET PG MUST KNOW

- **Symptoms:** Retrosternal/substernal burning, postprandial, worse when lying down
- **Associated Signs:** Regurgitation, dysphagia, nocturnal symptoms
- **Diagnostic Response:** Prompt relief with antacids

🧠 MASTER ANCHOR

"MEAL + LIE DOWN → REFLUX."

⚠️ CLINICAL RULE

Chest pain should **never** be labelled GERD until cardiac causes are ruled out!

5 **Persistent/prolonged + worse with movement/position + repetitive activity**

COSTOCHONDRITIS

NEET PG MUST KNOW

- **Mechanism:** Pain directly related to chest wall movement / repetitive strain
- **Pathognomonic Sign: Reproducible with palpation** → strongly supports chest-wall origin
- **Duration:** Prolonged & persistent rather than brief exertional angina

🧠 MASTER ANCHOR

"MOVE / PRESS → MUSCLE."

💡 QUICK TIP

Always palpate costochondral junctions to rule out musculoskeletal origin.

⭐ LEFT COLUMN CHECKLIST

1. **Stable angina**
2. **Acute pericarditis**
3. **Aortic dissection**
4. **GERD**
5. **Musculoskeletal pain / Costochondritis**

🔥 MASTER TRIGGER ANCHORS

EXERTION → **Stable angina**

FORWARD LEANING → **Pericarditis**

TEARING → **Aortic dissection**

ANTACID / REFLUX → **GERD**

MOVEMENT / PRESS → **Musculoskeletal**

⚡ HIGH-YIELD EXAM TWISTS

Chest pain + dyspnea + sudden onset + pleuritic → **PULMONARY EMBOLISM**

Chest pain + unilateral absent breath sounds → **PNEUMOTHORAX**

Chest pain + fever + cough → **PNEUMONIA / PLEURISY**

HIGH-YIELD PEDIATRICS • PART 7

Oropharyngeal Lesions in Children

Diagnosis-by-Location Rapid Review for NEET PG

Credits: Dr. Zainab Vora, Mam

Instagram: @the_preload

HIGH-YIELD DIAGNOSTIC SUMMARY TABLE

LOCATION & KEY FEATURE	DIAGNOSIS	ETIOLOGY / KEY CLUE
Posterior oropharynx + vesicles/ulcers	**HERPANGINA**	Coxsackie A / Enterovirus
Anterior mouth + gingivitis / perioral	**HSV GINGIVOSTOMATITIS**	HSV-1 ("Gums + Lips")
Exudative tonsils + **Anterior** cervical nodes	**GAS PHARYNGITIS**	S. pyogenes (No cough)
Exudative tonsils + **Posterior** nodes + organomegaly	**INFECTIOUS MONONUCLEOSIS**	EBV (Atypical lymphs)
Recurrent anterior ulcers + **NO fever**	**APHTHOUS ULCERS**	Canker sores (No vesicles)

DETAILED CLINICAL BREAKDOWN

1. Vesicles + ulcers on posterior oropharynx + fever

HERPANGINA

- **Etiology:** Coxsackie A virus / Enteroviruses
- **Predominant Lesion Sites:**
  - Soft palate & Uvula
  - Tonsillar pillars
  - Posterior oropharynx
- **Symptoms:** High fever + severe sore throat
- **Course:** Usually self-limiting

🧠 **MEMORY ANCHOR**

HERPANGINA = HERPES-like lesions in ANGINA (posterior) area.

🔥 **NEET PG TRAP**

Posterior oral lesions → Herpangina.
Anterior oral lesions → Think HSV / HFMD.

2. Vesicles + ulcers on anterior oral mucosa & around mouth + fever

HERPETIC GINGIVOSTOMATITIS (HSV-1)

- **Typical Presentation:** Fever + painful vesicles progressing to ulcers
- **Key Involvement:** Marked **gingivitis**, lips & perioral region, tongue, buccal mucosa
- **Clinical Note:** Child often refuses food/drink due to severe oral pain

🧠 **MEMORY ANCHOR**

HSV = "Gums + Mouth + Lips" (Anterior predominant).

🔥 **IMPORTANT DD**

HSV: Anterior mouth + gingivitis + perioral.
Herpangina: Posterior oropharynx.

3. Tonsillar exudates + fever + anterior cervical lymphadenopathy

GROUP A β-HEMOLYTIC STREPTOCOCCUS (GAS) PHARYNGITIS

- **Etiology:** *Streptococcus pyogenes*
- **Features:** Fever, tonsillar exudates, palatal petechiae
- **Nodes:** Tender **anterior** cervical lymphadenopathy
- **Key Negative:** Usually **NO cough**
- **Association:** May present with Scarlet Fever rash

🧠 **MEMORY ANCHOR**

STREP = Sore throat + Tender Anterior nodes + NO cough.

🔥 **EXAM TRAP**

Anterior cervical nodes → GAS
Posterior cervical nodes → EBV

4. Tonsillar exudates + fever + diffuse lymphadenopathy + hepatosplenomegaly

INFECTIOUS MONONUCLEOSIS (EBV)

- **Clues:** Fever, exudative tonsillitis, hepatitis
- **Nodes:** Prominent **posterior cervical** / diffuse nodes
- **Systemic:** Hepatosplenomegaly (BIG spleen)
- **Labs:** Atypical lymphocytes; Monospot (Heterophile Ab) positive in adolescents/adults

🧠 **MEMORY ANCHOR**

EBV = Exudative tonsils + Diffuse/Posterior nodes + Spleen.

🔥🔥 **HIGH-YIELD TRAP**

EBV + Amoxicillin / Ampicillin
→ Classic **Maculopapular Rash**!

5. Recurrent ulcers on anterior oral mucosa + NO fever / systemic symptoms

RECURRENT APHTHOUS ULCERS (CANKER SORES)

- **Common Sites:** Lips, buccal mucosa, floor of mouth, ventral tongue
- **Characteristics:** Recurrent, painful, well-circumscribed ulcers
- **Distinguishing Factor: No systemic illness / NO fever** in simple aphthous stomatitis
- **Note:** Not primarily a vesicular disease

🧠 **MEMORY ANCHOR**

APHTHA = Anterior + Painful + Recurrent + NO systemic symptoms.

⚡ 20-SECOND REVISION BOX

POSTERIOR = HERPANGINA

ANTERIOR + GINGIVITIS = HSV

ANTERIOR NODES = STREP

POSTERIOR NODES + SPLENOMEGALY = EBV

RECURRENT + NO FEVER = APHTHA

⚠️ ONE EXTRA NEET PG TWIST

If the question mentions:

Oral ulcers + Lesions on hands and feet

→ **Hand-Foot-Mouth Disease (HFMD)**
(Coxsackievirus A16)

- **Herpangina:** Posterior oral lesions ONLY
- **HFMD:** Oral lesions + Hands & Feet
- **HSV:** Painful anterior oral + Gingivitis
- **Aphthous:** Recurrent ulcers, NO fever

Content Credit: **Dr. Zainab Vora, Mam** • Prepared for Instagram: **@the_preload** • NEET PG Buzzwords Series

BUZZWORDS PART 15

What to write in the blank Mechanism column

Instagram: @the_preload

Credits: **Dr. Zainab Vora, mam**

#	CLINICAL PRESENTATION / BUZZWORD	DIAGNOSIS / MECHANISM
1	**Wheezing + prolonged expiration**	→ **Airway obstruction / Bronchospasm** 🧠 Think: Asthma / COPD
2	**Crackles + ↑ JVP + lower-extremity edema**	→ **Pulmonary edema due to Heart failure (CHF)** 🧠 Crackles + JVP + edema = CHF
3	**Fever + leukocytosis**	→ **Pneumonia / Infection**
4	**↓ breath sounds + dullness to percussion**	→ **Pleural effusion**
5	**Tachycardia + tachypnea + hypoxemia + prolonged immobility**	→ **Pulmonary embolism (PE)** 🚨
6	**Tachycardia + tachypnea + normal oxygenation/lung examination**	→ **Anemia** 🧠 Fast heart + fast breathing but normal lungs → Anemia
7	**Dizziness + palpitations + tachycardia/ bradycardia**	→ **Cardiac arrhythmia**

🔥 20-SECOND REVISION

- **Wheeze → Airway obstruction**
- **Crackles + JVP/edema → CHF**
- **Fever + WBC ↑ → Pneumonia**
- **Dull + ↓ BS → Pleural effusion**
- **Hypoxemia + immobility → PE**
- **Normal lungs + tachypnea → Anemia**
- **Palpitations + dizziness → Arrhythmia**

BUZZWORDS — PART 14

High-Yield Rapid Revision & Clinical One-Liners

Instagram: **@the_preload** Credit: **Dr. Zainab Vora Ma'am**

📌 **Note:** Pure High-Yield Diagnosis Sheet — Concise presentation optimized for quick recall and rapid exams.

#	CLINICAL FEATURES / PRESENTATION	DIAGNOSIS
1	Recurrent infections + granulomas + catalase-positive organisms	✍️ **Chronic granulomatous disease (CGD)**
2	Umbilical cord separation >30 days + no pus + recurrent skin/mucosal bacterial infections	✍️ **Leukocyte adhesion deficiency (LAD)**
3	Albinism + neurological dysfunction	✍️ **Chediak–Higashi syndrome**
4	Ovarian fibroma + ascites + pleural effusion	✍️ **Meigs syndrome**
5	Red, itchy, swollen rash of nipple/areola	✍️ **Paget disease of breast**
6	Fibrous plaques in tunica albuginea + abnormal penile curvature	✍️ **Peyronie disease**
7	Hypoxemia + polycythemia + hypercapnia	✍️ **Chronic bronchitis — "Blue bloater"**
8	Pink complexion + dyspnea + hyperventilation	✍️ **Emphysema — "Pink puffer"**
9	Dark purple skin/mouth nodules in AIDS	✍️ **Kaposi sarcoma**
10	Intention tremor + limb ataxia + falls toward injured side	✍️ **Cerebellar lesion**
11	Dysphagia + hoarseness + ↓ gag + nystagmus + ipsilateral Horner	✍️ **Lateral medullary (Wallenberg) syndrome**
12	Steep x and y descent	✍️ **Constrictive pericarditis**
13	Steep x descent + blunted y descent	✍️ **Cardiac tamponade**
14	Urinary incontinence + gait apraxia + cognitive dysfunction	✍️ **Normal pressure hydrocephalus (NPH)**
15	Progressive ascending symmetric weakness + hyporeflexia after GI/URTI	✍️ **Guillain–Barré syndrome (GBS)**
16	Painful blue fingers/toes + hemolytic anemia	✍️ **Cold agglutinin disease**

🔥 20-SECOND RAPID REVISION FLOW

CGD → LAD → Chediak → Meigs → Paget → Peyronie → Blue bloater → Pink puffer → Kaposi → Cerebellum → Wallenberg → Constrictive → Tamponade → NPH → GBS → Cold agglutinin

⚠️ MOST IMPORTANT HIGH-YIELD TRAPS

- **Late cord + no pus** = LAD
- **Albinism + neuro** = Chediak–Higashi
- **Steep X + Y** = Constriction | **Steep X + blunt Y** = Tamponade
- **Pink puffer** = Emphysema | **Blue bloater** = Chronic bronchitis

NEET PG HIGH-YIELD REVISION

Pulmonary Auscultation Findings

Buzzwords Series — Part 6

Creator: @the_preload
Source / Credits: Dr. Zainab Vora Ma'am
Instagram @the_preload

⭐ **High-Yield NEET PG Note:** This topic is extremely high-yield! Exam questions frequently present a clinical triad of *Percussion + Tactile Vocal Fremitus + Mediastinal Shift* and expect an instant diagnosis.

📊 The Master NEET PG Comparison Table

CONDITION	PERCUSSION	TACTILE FREMITUS	BREATH SOUNDS	MEDIASTINAL SHIFT
Consolidation (Pneumonia)	**Dull**	↑ Increased	Bronchial BS + Crackles	No Shift
Pleural Effusion	**Dull**	↓ Decreased	↓ Breath Sounds	**Contralateral** (if large)
Emphysema / Bullae	**Hyperresonant**	↓ Decreased	↓ Breath Sounds	No Shift
Pneumothorax	**Hyperresonant**	↓ Decreased	↓ Breath Sounds	**Contralateral** (if tension)
Atelectasis (Lung Collapse)	**Dull**	↓ Decreased	↓ / Absent BS	**Ipsilateral**

🔍 Detailed Condition Breakdown & Anchors

1 Consolidation — Pneumonia

- **Crackles**
- **Bronchial breath sounds**
- **Vocal resonance:** Bronchophony, egophony, pectoriloquy
- **Tactile vocal fremitus:** ↑ Increased
- **Percussion:** Dullness on percussion
- **Mediastinum:** No mediastinal shift

🧠 **Core Rule:** Consolidation = Solid lung tissue → sound travels *better* through solid density → ↑ **Fremitus**.

2 Pleural Effusion

- **Breath sounds:** ↓ Decreased
- **Tactile vocal fremitus:** ↓ Decreased
- **Percussion:** Dullness
- **Mediastinum:** Shifts **contralaterally (C/L)** if large

🧠 **Anchor:** Fluid outside the lung → ↓ sound transmission + ↓ fremitus + dullness + pushes mediastinum AWAY.

🔥 **NEET PG Trap:** Massive pleural effusion leads to a **contralateral shift**.

3 Emphysema / Bullous Emphysema

- **Breath sounds:** ↓ Decreased
- **Tactile fremitus:** ↓ Decreased
- **Percussion:** Hyperresonant percussion (especially prominent with large bullae)
- **Mediastinum:** No mediastinal shift

🧠 **Anchor:** Emphysema = **TOO MUCH AIR** trapped inside → hyperresonance on percussion.

4 Pneumothorax

- **Breath sounds:** ↓ Decreased
- **Tactile fremitus:** ↓ Decreased
- **Percussion:** Hyperresonant
- **Mediastinum:** Shifts **contralaterally** if tension pneumothorax

🧠 **Anchor:** Pneumothorax = **AIR outside lung** in pleural space → hyperresonance.

🔥 **Must Know:**
• *Simple pneumothorax:* Usually no major mediastinal shift.
• *Tension pneumothorax:* Contralateral shift + severe hemodynamic collapse → requires emergency needle decompression!

5 Atelectasis (Lung Collapse)

- **Breath sounds:** ↓ / Absent breath sounds
- **Tactile fremitus:** ↓ Decreased
- **Percussion:** Dullness
- **Mediastinum:** Shifts **ipsilaterally (I/L)**

🧠 **Anchor:** Atelectasis = Lung **COLLAPSES** → creates negative pressure/vacuum → pulls everything **TOWARD** it.

⚡ 20-SECOND MEMORY ANCHOR

- **CONSOLIDATION = ↑ FREMITUS (Solid = Sounds better)**
- **EFFUSION = FLUID → Dull + ↓ Fremitus → pushes AWAY (Contralateral)**
- **PNEUMOTHORAX = AIR → Hyperresonant → pushes AWAY if tension**
- **ATELECTASIS = COLLAPSE → Dull → pulls TOWARD (Ipsilateral)**

⚠️ **Exam Nuance:** Tactile fremitus in atelectasis can vary based on the specific mechanism, location of collapse, and airway patency. For this NEET PG Buzzwords module, record it as **Decreased** as tested.

BUZZWORD PART TWO

Immunodeficiency Syndromes & Ig Patterns — High Yield Revision

Prepared by: @the_preload
Credits: Dr. Zainab Vora ma'am

1. Hyper-IgM Syndrome

Row 1

B cells: Normal	IgG: ↓	IgA: ↓	IgM: ↑	IgE: ↓

🧠 **Why?** Defect in class switching → B cells remain producing IgM, cannot efficiently switch to IgG/IgA/IgE.

Buzzword: Male child + recurrent pyogenic/opportunistic infections + high IgM + low IgG/IgA → **Hyper-IgM**

Most Important Mechanism:
- X-linked form → **CD40L deficiency** (CD40L is on T helper cells)
- No CD40–CD40L interaction → no class switching.

⚠️ **NEET PG Trap:** Hyper-IgM ≠ absence of B cells. **B-cell count is NORMAL.**

2. Wiskott–Aldrich Syndrome

Row 2

B cells: Normal	IgG: Normal	IgA: ↑	IgM: ↓	IgE: ↑

🧠 **Classic Triad (Wiskott):** Thrombocytopenia + Eczema + Recurrent infections
- Small platelets (microthrombocytopenia) | X-linked recessive
- **WAS gene defect** → cytoskeletal dysfunction of hematopoietic cells.

🔥 **NEET PG Must Know:** Eczema + recurrent infections + thrombocytopenia = **Wiskott-Aldrich**
Ig Pattern: IgM ↓ | IgA ↑ | IgE ↑

3. Common Variable Immunodeficiency (CVID)

Row 3

B cells: Normal	IgG: ↓	IgA: ↓	IgM: ↓	IgE: ↓

🧠 **Core Defect:** B cells present but impaired differentiation into plasma cells → ↓ antibody production.

Typical Presentation: Recurrent sinopulmonary infections, *Giardia*, Autoimmune diseases, ↑ risk of lymphoma.

🔥 **NEET PG Trap:** CVID = B cells **NORMAL**, immunoglobulins **LOW**. Don't confuse with Bruton!

4. Hyper-IgE Syndrome (Job Syndrome)

Row 4

B cells: Normal	IgG: Normal	IgA: Normal	IgM: Normal	IgE: ↑↑↑

🔥 **Job Syndrome Buzzwords:** Very high IgE + Eczema + Recurrent "cold" staphylococcal abscesses + Pneumatoceles + Coarse facies + Retained primary teeth + Skeletal abnormalities.

🧠 **Mnemonic:** JOB = IgE Jobs UP | **Genetics: STAT3 mutation** (Autosomal Dominant).

5. Selective IgA Deficiency

Row 5

B cells: Normal	IgG: Normal	IgA: ↓	IgM: Normal	IgE: Normal

🔥 **Key Point:** ONLY IgA is decreased. Everything else is essentially normal.
Clinical: Recurrent sinopulmonary infections, Giardiasis, Allergies, Autoimmune disease.

⚡ 20-SECOND REVISION

IMMUNODEFICIENCY Ig PATTERN

Hyper-IgM
➡️ IgM ↑ | IgG/IgA/IgE ↓ | B cells normal

Wiskott-Aldrich
➡️ IgM ↓ | IgA/IgE ↑ | B cells normal
➡️ Eczema + thrombocytopenia + infections

CVID
➡️ All Ig ↓ | B cells normal

Job Syndrome
➡️ IgE ↑↑ | others normal

Selective IgA
➡️ ONLY IgA ↓

Bruton Disease
➡️ B cells ↓ + ALL Ig ↓

🧠 MASTER MEMORY ANCHORS

Hyper-M → M goes UP
Wiskott → M goes DOWN, A/E go UP
CVID → all Ig DOWN, B cells NORMAL
Job → E goes UP
Selective IgA → only A DOWN
Bruton → B cells + ALL Ig DOWN

📌 **NEET PG High-Yield Sheet**
Keep this sheet for 20-second quick recall before tests!

⚠️ **Very Important NEET PG Point:** Patients may develop **anaphylaxis to blood products** due to anti-IgA antibodies.

🧠 **Memory Anchor:** Selective IgA = Select ONE → only IgA ↓

6. X-linked Agammaglobulinemia (Bruton)

Row 6

B cells: ↓↓↓	IgG: ↓	IgA: ↓	IgM: ↓	IgE: ↓

🔥 **Major Differentiator from CVID:** Bruton = **B cells LOW** + **ALL immunoglobulins LOW**

Mechanism: BTK (Bruton tyrosine kinase) mutation → Failure of pre-B to mature B-cell development → Mature B cells absent/markedly reduced.

Clinical: Male child with recurrent bacterial infections after ~6 months of age (maternal IgG disappears). **No tonsils/lymph nodes**.

🧠 **Mnemonic:** BRUTON = B cells Brutally Reduced

COMMON CAUSES OF VERTIGO

NEET-PG Buzzwords & High-Yield Rapid Recognition Sheet

@the_preload

Credits: Dr. Zainab Vora Ma'am

1. KEY CAUSES & NEET-PG IDENTIFICATION PATTERNS

1. Recurrent episodes + unilateral hearing loss + tinnitus + ear fullness — MÉNIÈRE DISEASE

- **Pathophysiology:** Endolymphatic hydrops | **Duration:** Episodic vertigo 20 min – 12 hours
- **Audiology:** Fluctuating sensorineural hearing loss (Low-frequency SNHL initially) + Tinnitus & aural fullness
- **Dx & Tx:** Audiometry | Tx: Salt restriction, diuretics → Refractory: Intratympanic therapy / Surgery

🧠 **NEET Anchor: Vertigo + Hearing loss + Tinnitus**

⚠️ **Trap: Hearing loss is NOT typical of Vestibular Neuritis / BPPV**

2. Brief episodes triggered by head movement + Dix-Hallpike → nystagmus — BPPV

- **Site:** Posterior semicircular canal (Most common cause of peripheral vertigo)
- **Features:** Seconds (<1 min), triggered by change in head position; Hearing loss / Tinnitus ABSENT
- **Dx & Tx:** Dix-Hallpike Positive (Torsional + Upbeating nystagmus) | Treatment: Epley maneuver

🧠 **Anchor: Brief + Position + Positive Dix-Hallpike**

⚠️ **Classic Q: Most common cause of peripheral vertigo = BPPV**

3. Acute single episode lasting days + viral prodrome + abnormal head thrust — VESTIBULAR NEURITIS

- **Features:** Acute continuous vertigo lasting days (often post-viral peripheral lesion)
- **Diagnostics:** Head impulse / Head-thrust test POSITIVE | **NO hearing loss**
- **Treatment:** Vestibular suppressants (briefly) + Early vestibular rehabilitation

🧠 **Anchor: Neuritis = Nerve only → NO hearing loss**

⚠️ **Differentiate: Neuritis (No hearing loss) vs Labyrinthitis (Hearing loss present)**

4. Vertigo associated with headache + complete resolution between episodes — VESTIBULAR MIGRAINE

- **Features:** Episodic vertigo associated with migraine/headache; May have photophobia / phonophobia
- **Course:** Completely normal between attacks; Hearing loss is NOT a defining feature

🧠 **Anchor: Vertigo + Migraine = Vestibular Migraine**

⚠️ **NEET Trap: Can occur WITHOUT simultaneous headache!**

5. Sudden-onset persistent vertigo + other neurological symptoms — CENTRAL VERTIGO

- **Etiology:** Think Cerebellar / Brainstem Stroke (Posterior circulation involvement)
- **Signs:** Direction-changing/vertical nystagmus, severe gait/truncal ataxia; Head impulse may be normal

🧠 **Anchor: Vertigo + Neuro deficit = CENTRAL until proven otherwise**

⚠️ **Action: Evaluate urgently for posterior circulation stroke**

2. HIGH-YIELD COMPARISON MATRIX

CONDITION	DURATION	KEY DISCRIMINATORS / TRIGGER	HEARING LOSS / KEY SIGN
BPPV	Seconds (<1 min)	Position-triggered, Dix-Hallpike (+)	No hearing loss | Tx: Epley
Ménière Disease	20 min – 12 hrs	Endolymphatic hydrops, episodic	Fluctuating SNHL + Tinnitus + Fullness

CONDITION	DURATION	KEY DISCRIMINATORS / TRIGGER	HEARING LOSS / KEY SIGN
Vestibular Neuritis	Days	Post-viral, Head impulse test (+)	No hearing loss
Labyrinthitis	Days	Post-viral acute onset	Vertigo + Hearing Loss present
Vestibular Migraine	Episodic	Migraine association, photophobia	No defining hearing loss
Central Vertigo	Persistent / Sudden	Neurological signs, Ataxia, Vertical Nystagmus	Vascular/Central etiology

3. NEET-PG QUESTION FRAMES & INSTANT ANSWERS

Q1. Recurrent vertigo, tinnitus, fluctuating hearing loss, aural fullness?
→ **Ménière disease**

Q2. Vertigo 20s turned in bed; Dix-Hallpike = torsional upbeating nystagmus?
→ **BPPV (Posterior semicircular canal)**

Q3. Acute continuous vertigo post-viral, positive head impulse, no hearing loss?
→ **Vestibular neuritis**

Q4. Acute vertigo + hearing loss following viral infection?
→ **Labyrinthitis**

Q5. Sudden persistent vertigo + diplopia / ataxia / dysarthria?
→ **Central vertigo / Posterior stroke**

Q6. Which condition is treated by Epley maneuver?
→ **BPPV**

Q7. Which vertigo classically has hearing loss + tinnitus + aural fullness?
→ **Ménière disease**

⚡ 20-SECOND RAPID REVISION BOOSTER

- **BPPV:** Seconds + Position + Dix-Hallpike + Epley
- **Ménière:** Hours + Hearing loss + Tinnitus + Fullness
- **Neuritis:** Days + Post-viral + NO hearing loss + Abnormal HINTS
- **Labyrinthitis:** Neuritis + Hearing loss
- **Vestibular Migraine:** Vertigo + Migraine history
- **Central:** Vertigo + Neurological deficit

** Tailored for rapid hard-copy revision & NEET-PG exam identification. Do not fill with long textbook theory!*

BUZZ WORDS - NEET-PG

Page 1 High-Yield Rapid Decoding | **BTR Core Revision**

Instagram: **@the_preload** | Credit: **Dr. Zainab Vora Ma'am**

1. Pancytopenia + café-au-lait spots + absent radii and thumbs

✍️ WRITE: → Fanconi anemia

- *AR — DNA repair defect*
- *Chromosomal breakage test: ↑ breaks*
- *Pancytopenia: Leads to aplastic anemia*
- *Congenital anomalies: Absent/hypoplastic thumb + radius, short stature, renal/GI anomalies*
- *Café-au-lait spots*
- *↑ Risk of AML, especially AML-MDS spectrum*
- *Note: Fanconi anemia ≠ Fanconi syndrome*

🎯 *NEET-PG Framing: Child with pancytopenia + café-au-lait pigmentation + absent thumb/radius → Fanconi anemia*

⚠️ *Trap: Fanconi anemia = Bone marrow failure + congenital abnormalities | Fanconi syndrome = Proximal RTA*

🧠 **Anchor: "Fanconi = Failed marrow + Failed thumb."**

2. Café-au-lait spots + precocious puberty

✍️ WRITE: → McCune–Albright syndrome

- *GNAS mutation — Mosaic, activating Gsα mutation*
- *Classic Triad: Café-au-lait spots + Polyostotic fibrous dysplasia of bone + Precocious puberty*
- *Other Endocrine Hyperfunction: Hyperthyroidism, GH excess, Cushing syndrome*

🎯 *NEET-PG Framing: Young girl + vaginal bleeding/precocious puberty + café-au-lait spots + polyostotic fibrous dysplasia → McCune-Albright*

⚠️ *Classic Comparison: McCune-Albright → café-au-lait + precocious puberty | NF1 → café-au-lait + neurofibromas*

🧠 **Anchor: "McCune = Milk spots + Multiple bones + Menses early."**

3. Café-au-lait spots + dermal tumors

✍️ WRITE: → Neurofibromatosis type 1 (NF1 / von Recklinghausen disease)

- *Autosomal Dominant (AD) — Chromosome 17 (Neurofibromin mutation)*
- *Key Features: Café-au-lait spots, Neurofibromas, Axillary/inguinal freckling, Lisch nodules, Optic pathway glioma*
- *Associated Risks: ↑ risk of pheochromocytoma, ↑ risk of malignant peripheral nerve sheath tumor*

🎯 *NEET-PG Framing: Café-au-lait spots + multiple cutaneous neurofibromas + axillary freckling → NF1*

🧠 **Anchor: NF1 = "Neurofibromas + 17."**

4. Normal AG metabolic acidosis + Amphotericin B + nephrolithiasis

✍️ **WRITE: → Distal (Type 1) RTA**

- *Defect: Failure of H^+ secretion by α-intercalated cells*
- *Lab Findings: Urine pH >5.5 despite systemic acidosis, Hypokalemia, Hyperchloremic normal-AG metabolic acidosis*
- *Nephrolithiasis: ↑ urine Ca^{2+} → nephrolithiasis/nephrocalcinosis*
- *Causes: Sjögren syndrome, SLE, Amphotericin B, Autoimmune diseases*

🎯 *NEET-PG Framing: Normal-AG metabolic acidosis + urine pH >5.5 + recurrent renal stones → Type 1 RTA*

🔥 *Very Important: Type 1 = Stones (Alkaline urine + hypocitraturia + hypercalciuria → stones)*

🧠 **Anchor: "Type 1 = H^+ cannot get out → urine stays alkaline → stones."**

5. Normal AG metabolic acidosis + rickets

✍️ **WRITE: → Proximal (Type 2) RTA**

- *Defect: ↓ HCO_3^- reabsorption in proximal tubule*
- *Urine pH: Initially >5.5, but drops to <5.5 after HCO_3^- depletion*
- *Key Points: Hypokalemia, NO nephrolithiasis*
- *Causes: Fanconi syndrome, Multiple myeloma, Acetazolamide, Ifosfamide, Tenofovir, Lead*
- *Rickets Connection: Fanconi syndrome → phosphate wasting → hypophosphatemic rickets*

🎯 *NEET-PG Framing: Child with rickets + glycosuria despite normal blood glucose + aminoaciduria + normal-AG metabolic acidosis → Fanconi syndrome / Type 2 RTA*

🧠 **Anchor: Type 2 = HCO_3^- lost from proximal tubule.**

6. Long bone fracture + respiratory distress + petechiae + confusion

✍️ **WRITE: → Fat embolism syndrome (FES)**

- *Etiology: Classically 24–72 hours after long-bone fracture (especially femur)*
- *Classic Triad: 1. Respiratory distress/hypoxemia, 2. Neurological symptoms (confusion), 3. Petechial rash*
- *Mechanism: Fat droplets → pulmonary microvascular injury + systemic inflammatory response*

🎯 *NEET-PG Framing: 48 h after femoral fracture → hypoxemia + confusion + petechiae → Fat embolism syndrome*

⚠️ *Don't Confuse: Fat embolism ≠ thromboembolism*

🧠 **Anchor: "FAT = Failing lungs + Altered brain + Tiny petechiae."**

7. ↓ Ca^{2+} + ↑ K^+ + ↑ phosphate + ↑ uric acid

✍️ **WRITE: → Tumor lysis syndrome (TLS)**

- *Context: Usually after chemotherapy for high-grade hematological malignancy*
- *Lab Profile: ↓ Ca^{2+}, ↑ K^+, ↑ PO_4^{3-}, ↑ Uric acid, ↑ LDH → Acute Kidney Injury (AKI)*
- *Mechanism: Rapid cell lysis releases K^+, PO_4^{3-} (causes Ca-phosphate precipitation → hypocalcemia), and Nucleic acids → uric acid nephropathy*
- *Prevention / Rx: Allopurinol or Rasburicase (Rasburicase converts uric acid → allantoin)*

🎯 *NEET-PG Framing: Post-chemo → AKI + hyperkalemia + hyperuricemia + hypocalcemia → Tumor Lysis Syndrome*

🧠 **Anchor: TLS = "K-P-U up, Ca down."**

8. Red "currant jelly" sputum

✍️ **WRITE: → Klebsiella pneumoniae pneumonia**

- *Classic Risk Factors: Alcoholism, Diabetes mellitus, Elderly / debilitated patients*
- *Features: Lobar pneumonia, thick blood-tinged "currant-jelly" sputum, bulging fissure sign on CXR*

🎯 *NEET-PG Framing: Alcoholic with lobar pneumonia + thick blood-tinged currant-jelly sputum → Klebsiella*

🧠 **Anchor: Klebsiella = "Klebsiella keeps the jelly."**

9. Red currant jelly stool

✍️ **WRITE: → Intussusception**

- *Definition: Telescoping of one bowel segment into another (usually ileocolic; ages 6–36 months)*
- *Classic Triad: Colicky abdominal pain + Palpable sausage-shaped mass + Red currant jelly stool*
- *Imaging & Rx: USG → target / doughnut sign. Air/contrast enema = diagnostic + therapeutic.*

🎯 *NEET-PG Framing: Infant with intermittent severe colicky pain + sausage-shaped mass + currant-jelly stool → Intussusception*

🧠 **Anchor: "Currant jelly STOOL = Intussusception."**

10. Large rash with bull's-eye appearance + hiker

✍️ **WRITE: → Lyme disease**

- *Organism: Borrelia burgdorferi | Vector: Ixodes tick (hikers/woods)*
- *Early Localized: Erythema migrans (expanding bull's-eye / target lesion)*
- *Early Disseminated: Facial nerve palsy (bilateral), carditis / AV block, multiple lesions*
- *Late: Chronic mono/oligoarthritis (especially knee)*

🎯 *NEET-PG Framing: Hiker + expanding target-shaped rash after tick exposure → Lyme disease*

🧠 **Anchor: "Lyme = Ixodes + EM + AV block + Arthritis."**

11. AKI + BUN/Cr >20:1 + FeNa <1%

✍️ **WRITE: → Prerenal AKI**

- *Lab Profile: BUN/Cr >20:1, FeNa <1%, Urine Na^+ <20 mEq/L, Urine osmolality >500 mOsm/kg, Bland sediment*
- *Mechanism: ↓ Renal perfusion → kidney maximally retains Na^+ and water*
- *Causes: Dehydration, hemorrhage, vomiting/diarrhea, heart failure, cirrhosis, renal artery stenosis*

🎯 *NEET-PG Framing: AKI + BUN/Cr 25 + FeNa 0.5% → Prerenal azotemia*

⚠️ *Major Trap: FeNa <1% = prerenal, BUT contrast-induced nephropathy & early ATN can also present with FeNa <1%.*

🧠 **Anchor: "Pre-renal = kidney preserves Na → FeNa LOW."**

12. Hepatitis + AST > ALT + both <300

✍️ **WRITE: → Alcoholic hepatitis**

- *Classic Ratio: AST > ALT (typically ratio > 2:1), both values usually <300 U/L (ALT <200 U/L)*
- *Why AST > ALT? Alcohol causes mitochondrial injury (AST release) + Pyridoxal phosphate (Vit B6) deficiency (impaired ALT activity)*
- *Clinical: Fever, jaundice, tender hepatomegaly, leukocytosis, ↑ GGT, ↑ bilirubin*

🎯 *NEET-PG Framing: Chronic alcohol user + jaundice + AST 240, ALT 100 → Alcoholic hepatitis*

🧠 Anchor: Alcohol = AST > ALT, usually >2:1.

13. Severe abdominal pain out of proportion to examination

✍️ **WRITE: → Acute mesenteric ischemia**

- *Classic Clue: Severe visceral abdominal pain + relatively normal/benign physical exam (before bowel necrosis)*
- *Etiology: SMA Embolus (Atrial Fibrillation), SMA Thrombosis (Atherosclerosis), Non-occlusive (Shock)*
- *Diagnosis: CT Angiography = Preferred diagnostic test*

🎯 *NEET-PG Framing: AF patient + sudden severe abdominal pain + minimal tenderness → SMA embolism*

🧠 Anchor: "Pain > findings = think mesenteric ischemia."

14. Pancytopenia + pancreatic insufficiency

✍️ **WRITE: → Shwachman-Diamond syndrome**

- *Autosomal Recessive (AR) — Bone marrow dysfunction (neutropenia/pancytopenia) + Exocrine pancreatic insufficiency*
- *Manifestations: Malabsorption, steatorrhea, growth retardation, skeletal anomalies, ↑ risk of MDS/AML*

🎯 *NEET-PG Framing: Child with recurrent infections + neutropenia + steatorrhea/pancreatic insufficiency → Shwachman-Diamond syndrome*

⚠️ *Differentiate: CF = Pancreatic insufficiency + recurrent respiratory infections (not pancytopenia). Shwachman-Diamond = Pancreatic insufficiency + marrow failure/neutropenia.*

🧠 Anchor: "Shwachman = Stool fat + Marrow failure."

🔥 PAGE 1 — 20-SECOND RAPID REVISION SUMMARY

- *Fanconi anemia → Pancytopenia + café-au-lait + absent thumb/radius*
- *McCune-Albright → Café-au-lait + fibrous dysplasia + precocious puberty*
- *NF1 → Café-au-lait + neurofibromas + Lisch nodules*
- *Type 1 RTA → ↓ H^+ secretion → urine pH >5.5 + renal stones*
- *Type 2 RTA → ↓ HCO_3^- reabsorption → Fanconi / rickets*
- *Fat embolism → Long-bone fracture + hypoxemia + neuro + petechiae*
- *TLS → ↑ K, ↑ PO_4, ↑ uric acid, ↓ Ca → AKI*
- *Klebsiella → Currant-jelly SPUTUM*
- *Intussusception → Currant-jelly STOOL*
- *Lyme → Hiker + Ixodes + bull's-eye rash*
- *Prerenal AKI → BUN/Cr >20 + FeNa <1%*
- *Alcoholic hepatitis → AST > ALT (>2:1 ratio; both <300)*
- *Mesenteric ischemia → Severe pain out of proportion to exam*
- *Shwachman-Diamond → Pancreatic insufficiency + marrow failure*

⚡ KEY HIGH-YIELD PAIRS & TRAPS:

Currant-jelly SPUTUM	*Klebsiella pneumoniae*
Currant-jelly STOOL	*Intussusception*
Café-au-lait + Precocious puberty	*McCune-Albright syndrome*
Café-au-lait + Neurofibromas	*Neurofibromatosis Type 1 (NF1)*
Café-au-lait + Pancytopenia + Absent thumb	*Fanconi anemia*
Normal AG acidosis + Stones	*Distal (Type 1) RTA*
Normal AG acidosis + Rickets / Fanconi	*Proximal (Type 2) RTA*

BUZZWORD PART 12

Microorganisms Associated with Infective Endocarditis

High-Yield NEET-PG Rapid Revision Guide • Framing: "Patient + Risk Factor → Organism"

Instagram: **@the_preload** | Special Credit & Gratitude to **Dr. Zainab Vora Ma'am**

📋 HIGH-YIELD ORGANISM ORDER (FILL-IN-THE-BLANKS ORDER)

1. Staphylococcus aureus
2. Viridans streptococci
3. Coagulase-negative Staphylococci — *S. epidermidis*
4. Enterococcus
5. Streptococcus gallolyticus (*S. bovis*)
6. Candida spp.

1 Injection Drug User (IVDU) → S. aureus

- Most common cause of IE in IV drug users
- Classically affects **Tricuspid valve** (Right-sided IE)
- Complication: **Septic pulmonary emboli**

🔥 **NEET-PG Framing:** IVDU + fever + multiple cavitating pulmonary lesions → *S. aureus*.
⚡ **Trap:** Can infect *normal / non-diseased* valves.

🧠 **Anchor: IVDU → S. aureus → TRICUSPID**

2 Dental Procedure → Viridans streptococci

- Oral manipulation → affects **damaged / diseased valves**
- Normal flora of oral cavity
- Species: *S. sanguinis, S. mutans, S. mitis, S. salivarius*

🔥 **Classic Q:** Pre-existing rheumatic heart disease + fever after dental extraction → *Viridans streptococci*.

🧠 **Anchor: Dental → VIRI-DANS = VIRIDANS**

3 Catheter / Prosthetic / Pacemaker → S. epidermidis

- Coagulase-negative Staphylococcus (CoNS)
- Strongly associated with implanted foreign bodies
- Produces **biofilm** for adherence

🔥 **NEET-PG Trap:** Prosthetic valve + IE → *S. epidermidis* (vs IVDU + IE → *S. aureus*).

🧠 **Anchor: EPIDERMIDIS = Equipment**

4 Nosocomial UTI → Enterococcus

- Associated with nosocomial UTI & GU/biliary instrumentation
- Species: *E. faecalis, E. faecium* (Normal GI flora)

🔥 **Pattern:** Elderly hospitalized patient with urinary catheter develops bacteremia + IE → *Enterococcus*.

🧠 **Anchor: Enterococcus = UTI + GI/GU manipulation**

5 Colon Carcinoma / IBD → S. gallolyticus (S. bovis)

- Strong association with colonic neoplasia
- **Action:** Must evaluate colon (colonoscopy) for occult colorectal adenoma/carcinoma

🔥 **NEET-PG Twist:** May present as IE + occult GI malignancy rather than explicit colon cancer.

🧠 **Anchor: BOVIS → BOWEL Pathology**

6 Immunocompromised + Line → Candida spp.

- Risk: Immunocompromised, broad-spectrum antibiotics, central venous catheter, IVDU
- Presents with **large vegetations** & persistent fever

🔥 **Framing:** Immunocompromised + broad-spectrum antibiotics + CVC + large vegetations → *Candida*.

🧠 **Anchor: Candida = Catheter + Compromised**

🚨 THE CORE NEET-PG ASSOCIATION SUMMARY BOX

- IV drug user → **S. aureus** (Tricuspid)
- Dental procedure → **Viridans streptococci**
- Prosthetic valve / Catheter / Pacemaker → **S. epidermidis**
- Nosocomial UTI → **Enterococcus**
- Colon carcinoma → **S. gallolyticus (S. bovis)**
- Immunocompromised + Catheter + Antibiotics → **Candida**

🔥 Additional High-Yield IE Organisms

- **HACEK Group:** *Haemophilus, Aggregatibacter, Cardiobacterium, Eikenella, Kingella* → Culture-negative / slow-growing IE

🧠 20-Second Revision & Killer Mnemonic

"Drug – Dental – Device – Drain – Digestive – Deficient"

Drug → *S. aureus* | **D**ental → *Viridans* | **D**evice → *S. epidermidis*

- **Coxiella burnetii & Bartonella:** Key causes of culture-negative IE
- **S. lugdunensis:** CoNS, but behaves aggressively like *S. aureus*

Drain (UTI) → *Enterococcus* | **D**igestive → *S. gallolyticus* | **D**eficient → *Candida*

NEET-PG RAPID REVISION

Buzz Part 13: Tremors

High-Yield Clinical Clues & Differential Diagnosis

Credit: **Dr. Zainab Vora Ma'am**

Instagram: @the_preload

⚡ **High-Yield Exam Strategy: The examiner typically provides 2–3 clinical clues to test tremor identification. Focus on Action vs Rest vs Intention.**

1 Essential Tremor

🔑 **Bilateral action tremor + alcohol relieves it**

Must Know:

- Bilateral, symmetric **action/postural** tremor (hands > lower limbs).
- Can involve **head**, **voice**, and **hands**.
- **No other neurological abnormalities** (key diagnostic clue).
- **Alcohol temporarily improves tremor** (classic buzzword).
- Often familial (Autosomal Dominant).

NEET-PG FRAMING

55-year-old man has bilateral hand tremor while holding a glass. Neurological exam is normal. Tremor improves after alcohol.

→ **Essential Tremor**

🧠 **Anchor: "Essentially normal neuro exam + action tremor + alcohol helps."**

💊 **Treatment:** Propranolol or Primidone (Most effective first-line drugs).

3 Cerebellar / Intention Tremor

🔑 **Tremor increases as hand approaches target**

Must Know:

- Action tremor that **worsens progressively near the target**.
- **Associated features:** Ataxia, Dysmetria, Gait disturbance, Dysdiadochokinesia, Hypotonia.

CLASSIC QUESTION

Patient asked to touch nose; tremor becomes increasingly severe as finger approaches examiner's finger.

→ **Intention Tremor (Cerebellar Lesion)**

🧠 **Anchor: "INTENTION = INCHING toward target → tremor increases."**

4 Enhanced Physiologic Tremor

🔑 **Low-amplitude 10–12 Hz + sympathetic states**

Features & Triggers ("SAC + TH"):

- **High frequency (10–12 Hz)**, low amplitude postural/action tremor.
- **Triggers: S**ympathetic activation, **A**nxiety, **C**affeine, **T**hyrotoxicosis, **H**yperthyroidism / Drugs (β–^{2} agonists like salbutamol).

CLASSIC QUESTION

Young woman with tremulousness, palpitations, weight loss & heat intolerance has fine high-frequency tremor.

→ **Enhanced Physiologic Tremor (Hyperthyroidism)**

🧠 **Anchor: Fine + Fast + Fight/Flight → Physiologic Tremor**

2 Parkinsonian Tremor

🔑 **Resting 4–6 Hz tremor → Parkinsonian**

Must Know:

- **Resting tremor** (4–6 Hz frequency).
- **Decreases/disappears with voluntary movement**.
- Begins asymmetrically/unilaterally in hands.
- Classic **pill-rolling movement** of thumb & index finger.

The TRAP Criteria: **T**remor at rest | **R**igidity | **A**kinesia/bradykinesia | **P**ostural instability

NEET-PG TRAP & CLASSIC Q

65-year-old patient has unilateral pill-rolling tremor at rest that decreases when reaching for an object. *Note: Patient does NOT need all 4 TRAP features for diagnosis.*
→ **Parkinsonian Tremor**

🧠 **Anchor: PARKINSON = PARKED HAND → trembles at REST.**

🔥 Master Comparison & Rapid Revision

THE MOST IMPORTANT COMPARISON: REST vs ACTION vs INTENTION

Tremor Type	Primary State	Key Features & Triggers
Parkinsonian	**REST** (4–6 Hz)	Pill-rolling, decreases with movement, asymmetric, TRAP signs.
Essential	**ACTION / Postural**	Bilateral hands/head/voice, normal neuro exam, **relieved by alcohol**.
Cerebellar	**INTENTION**	Worsens near target, associated with ataxia & dysmetria.
Physiologic	**FINE ACTION** (10–12 Hz)	Sympathetic states, anxiety, caffeine, hyperthyroidism, β–² agonists.

🚨 NEET-PG TWISTS YOU MUST KNOW

Twist 1: Alcohol improves tremor → **Essential Tremor** (Not Parkinson).

Twist 2: Tremor disappears during voluntary movement → **Parkinsonian / Rest Tremor**.

Twist 3: Tremor gets worse while reaching for an object → **Cerebellar Intention Tremor**.

Twist 4: Tremor + ataxia + dysmetria → **Cerebellar Tremor** (Don't call it just "action tremor").

Twist 5: Fine tremor + tachycardia + sweating + weight loss → **Hyperthyroidism (Enhanced Physiologic)**.

Twist 6: Bilateral hand tremor + normal neurological examination → **Essential Tremor**.

🧠 Compact Hardcopy Notes

Write this compactly in your notebook:

Essential: Bilateral ACTION/postural → hands ± head/voice | no other neuro signs | ↓ with alcohol | Tx: Propranolol/Primidone

Parkinson: REST 4–6 Hz | ↓ with voluntary movement | pill-rolling | asymmetric | TRAP

Cerebellar: INTENTION → ↑ as target approached | ataxia + dysmetria

Physiologic: Fine, fast 10–12 Hz | sympathetic, anxiety, caffeine, hyperthyroidism, β–² agonists

📌 FILL LEFT COLUMN BLANKS

1. **Essential tremor**
2. **Parkinsonian tremor**
3. **Cerebellar / intention tremor**
4. **Physiologic / enhanced tremor**

⚡ 20-SECOND REVISION BOX

REST = PARKINSON

ACTION + ALCOHOL = ESSENTIAL

INTENTION + ATAXIA = CEREBELLUM

FINE + FAST + ANXIETY/THYROID = PHYSIOLOGIC

🔥 **ONE KILLER MEMORY LINE: "Parkinson rests, Essential acts, Cerebellum intends, Physiology is fine & fast."**